DOCUMENT RESUME

ED 115 762 CE 005 583

AUTHOR	Hakel, Milton D.; And Others
TITLE	Management of Social Incentives in Air Force Technical Training: A Field Experiment. Final Report.
INSTITUTION	Ohio State Univ., Columbus. Research Foundation.
SPONS AGENCY	Air Force Human Resources Lab., Lowry AFB, Colo. Technical Training Div.
REPORT NO	AFHRL-TR-75-11
PUB DATE	Sep 75
NOTE	183p.
EDRS PRICE	MF-$0.76 HC-$9.51 Plus Postage
DESCRIPTORS	Behavioral Science Research; Comparative Analysis; Correlation; Data Analysis; Educational Research; Experimental Groups; Experimental Programs; *Field Studies; Instructional Improvement; Instructional Systems; *Leadership Training; Manuals; *Military Training; *Motivation; Post Secondary Education; *Social Reinforcement; Student Attitudes; Student Motivation; Systems Analysis; Tables (Data)
IDENTIFIERS	*Air Force

ABSTRACT

The report is a study of the utility of social reinforcement for improving Air Force training. It was conducted through a field evaluation of social incentive instructional systems which would serve to improve student motivation, classroom performance, and attitudes. The participants included a total of 300 trainees from two Air Force bases; 25 instructors were involved, two of whom participated in two experimental treatments. Data were collected on performance records, instructor evaluation, and trainee attitudes. The experimental treatments attempted to increase the incidence of student leadership behaviors and included the Baseline Control Condition, the Leader Attitude Training System, the Leader Recognition System, and the Classroom Behavior Development System (CBDS). The activities, covering a period of approximately three months, are described for each experimental system. Statistical analyses were conducted to assess their impact. The general finding was that none of the classroom social leadership systems had any important positive or negative effect on block examination scores, on completion time, on trainee attitudes, or on instructors' assessment of student performance. The CBDS had a positive effect on student attitudes toward fellow trainees. Twenty-two tables supplement the discussion. Appendixes (132 pages) present the instructors manuals used in the four intervention systems and additional tabulated data. (Author/EC)

Documents acquired by ERIC include many informal unpublished materials not available from other sources. ERIC makes every effort to obtain the best copy available. Nevertheless, items of marginal reproducibility are often encountered and this affects the quality of the microfiche and hardcopy reproductions ERIC makes available via the ERIC Document Reproduction Service (EDRS). EDRS is not responsible for the quality of the original document. Reproductions supplied by EDRS are the best that can be made from the original.

NOV 1 0 1975

AFHRL-TR-75-11

AIR FORCE HUMAN RESOURCES LABORATORY

MANAGEMENT OF SOCIAL INCENTIVES IN AIR FORCE TECHNICAL TRAINING:

A FIELD EXPERIMENT

By

Milton D. Hakel
Richard J. Klimoski
Michael T. Wood
The Ohio State University, Research Foundation
1314 Kinnear Road
Columbus, Ohio 43212

TECHNICAL TRAINING DIVISION
Lowry Air Force Base, Colorado 80230

September 1975
Final Report for Period June 1972 – February 1975

Approved for public release; distribution unlimited.

ED115762

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

CE005 583

AIR FORCE SYSTEMS COMMAND
BROOKS AIR FORCE BASE, TEXAS 78235

NOTICE

When US Government drawings, specifications, or other data are used for any purpose other than a definitely related Government procurement operation, the Government thereby incurs no responsibility nor any obligation whatsoever, and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise, as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

This final report was submitted by The Ohio State University, Research Foundation, 1314 Kinnear Road, Columbus, Ohio 43212, under contract F41609-72-C-0044, project 1121, with Technical Training Division, Air Force Human Resources Laboratory (AFSC), Lowry Air Force Base, Colorado 80230.

This report has been reviewed and cleared for open publication and/or public release by the appropriate Office of Information (OI) in accordance with AFR 190-17 and DoDD 5230.9. There is no objection to unlimited distribution of this report to the public at large, or by DDC to the National Technical Information Service (NTIS).

This technical report has been reviewed and is approved.

MARTY R. ROCKWAY, Technical Director
Technical Training Division

Approved for publication.

HAROLD E. FISCHER, Colonel, USAF
Commander

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: AFHRL-TR-75-11

2. GOVT ACCESSION NO.:

3. RECIPIENT'S CATALOG NUMBER:

4. TITLE (and Subtitle): MANAGEMENT OF SOCIAL INCENTIVES IN AIR FORCE TECHNICAL TRAINING: A FIELD EXPERIMENT

5. TYPE OF REPORT & PERIOD COVERED: Final
June 72 - February 75

6. PERFORMING ORG. REPORT NUMBER:

7. AUTHOR(s):
Milton D. Hakel
Richa[illegible] J. Klimoski
Micha[illegible] T. Wood

8. CONTRACT OR GRANT NUMBER(s): F41609-72-C-0044

9. PERFORMING ORGANIZATION NAME AND ADDRESS:
The Ohio State University, Research Foundation
1314 Kinnear Road
Columbus, Ohio 43212

10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS:
62703F
11210406

11. CONTROLLING OFFICE NAME AND ADDRESS:
Hq Air Force Human Resources Laboratory (AFSC)
Brooks Air Force Base, Texas 78235

12. REPORT DATE: September 1975

13. NUMBER OF PAGES: 184

14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office):
Technical Training Division
Air Force Human Resources Laboratory
Lowry Air Force Base, Colorado 80230

15. SECURITY CLASS. (of this report): Unclassified

15a. DECLASSIFICATION/DOWNGRADING SCHEDULE:

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

social reinforcement
contingency management
incentives
incentive management
rewards
social incentives
reinforcement
motivation
training

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report presents the rationale, design, and results of a field experiment which explored the use of social incentives in Air Force technical training. Four experimental treatments of varying complexity were introduced sequentially into a resident training avionics course. These treatments attempted to increase the incidence of student leadership behaviors on the assumption that social interaction would be reinforcing and lead to improved performance. Dependent variables included block exam scores, time to complete blocks, and student attitudes. Results showed that none of the experimental systems had

Item 20 (Continued)

an appreciable effect on performance. One system, howeever, did have a significant positive effect on student attitudes toward fellow trainees. Various alternative explanations are proposed along with suggestions for future research.

SUMMARY

PROBLEM

This is the final report in a series which investigated the utility of social reinforcement for improving Air Force technical training. Having identified and analyzed incentives in a previous phase, the goal of the present effort was to conduct a field evaluation of a social incentive system in a resident training setting. Social incentives are defined as those which result from personal interaction (e.g., recognition, approval, encouragement, etc.) as opposed to non-social or tangible benefits (e.g., freedom from work details, time off, etc.).

APPROACH

Four intervention conditions (or experimental treatments) were developed. The aim common to all of them was to increase the incidence of "leadership behavior" in the classroom. Leadership behavior was defined quite broadly here and encompassed such aspects as supportive assistance (showing concern, assisting in instruction, giving encouragement); command authority (keeping class in order, alerting instructor to problems); and group awareness (increasing the "togetherness" of the class, initiating friendships, helping the class reach its goals). It was anticipated that the enhancement of such leadership behavior would have a positive effect on morale within the learning atmosphere which, in turn, would promote higher performance and/or more satisfying conditions under which to perform.

The four systems differed in both complexity and the degree to which measures were taken to guarantee that leadership behavior would be improved. They were administered sequentially in a learner centered avionics fundamentals course. The four treatments were:

1) "Hawthorne Effect" Control Condition.

Much previous research indicates that mere participation in an experiment can influence productivity. To guard against misinterpreting the experimental treatments, a special baseline group was constituted; these students were informed they were part of an experiment and extensively interviewed on 2 successive days by members of the research staff. No further experimental intervention was done.

2) Leader Attitude Training System (LATS).

This was intended to be a very weak form of intervention. A booklet stressing the importance of leadership, detailing Air Force expectations of student leadership, and describing with examples the desired classroom behavior was provided to the students as part of their initial course handouts. No further elaboration was made.

3) Leader Recognition System (LRS).

In this condition trainees were required to nominate fellow students who had displayed classroom leadership behavior as described in the manual they were issued. The instructor explained the manual, the way in which leader behaviors should be reported, and the mechanics of the system. The nominations were held biweekly. Further, after the nominations, the instructor interviewed each student, advised him on how to improve, how to set goals, and attempted to challenge the student. No public posting of nominations was included.

4) Classroom Behavior Development System (CBDS).

Additional features were added to the LRS described above. These consisted of a) more extensive group discussions, b) an acquaintance process wherein the class and instructor were to learn more about the background of the various class members, c) goal setting in the form of a psychological contract to improve leadership effectiveness, d) a leadership planning form which the student used to specify behaviors he would try to accomplish, and e) role playing sessions to show incidents of effective leadership behavior.

Data were collected on an additional control group which experienced no contact whatever with the researchers. As dependent variables, data were collected on student performance (block grades, time to completion), student attitudes, and instructor assessments of student performance.

RESULTS

The general finding was that none of the classroom social leadership systems had any important positive or negative effect on block examination scores, on time to completion, on trainee attitudes, or on instructors' assessment of student performance. However, the most elaborate system (i.e., the CBDS) did have a positive effect on student attitudes toward fellow trainees. A secondary analysis indicated that student aptitude scores were significantly related to instructors' assessments of student performance, thus indicating potential bias.

DISCUSSION

That these particular systems were not effective in materially improving performance in technical training should not be taken as an indictment of all social incentive systems. There are many alternative explanations for the results. First, instructors were not experienced in conducting some of the more complex group exercises such as acquaintanceship, goal setting, and role playing. Second, the self paced atmosphere may have mitigated against a minimal amount of group cohesiveness necessary for success with this kind of approach. Third, the criteria used to judge effectiveness may have been insensitive to increases in social reinforcement. For example, the already high test scores probably exercised a psychometric ceiling effect; time-to-completion may have been more a reflection of normative expectation rather than being responsive to changes in motivation. Instructors' assessments of student performance may have been biased by the fact the instructors already had knowledge of students' aptitude scores. Finally, unlike the situation with tangible incentives, no contingencies between the social incentives and classroom performance could be incorporated in this experiment.

CONCLUSIONS

The major conclusion of this entire research effort is that the management of social incentives is a particularly difficult art. While social incentives can be identified and scaled with considerable ease, manipulation and management of the same incentives requires considerably greater effort. The scaling data show high attractiveness values for various social incentives. The results of the field experiment show the positive influence of the acquaintanceship and psychological contract exercise on attitudes toward fellow trainees. Both of these findings underline the importance of social factors. Obviously, more research needs to be done to find effective ways of harnessing these powerful forces to improve learning in Air Force settings.

Table of Contents

Page

Chapter 1--Introduction. 7

Project Origins 7
Objectives. 7
Short Summary of Literature Review 8
Short Summary of Incentive Analysis 11
Managing Social Incentives. 13

Chapter 2--Procedure 15

Overview 15
Course Selection 15
Subjects. 16
Dependent Measures 16
Ancillary Data. 17
The Social Incentive Instruction Systems: Rational and Method 17
Schedule. 23
Analyses. 23

Chapter 3--Results and Discussion 25

Overview. 25
Performance on Block Examinations 25
Performance--Hours per Block. 27
Student Attitudes 29
Instructors' Assessments. 35
Aptitude 37
Administrative Burden on Instructors 40
Cost Effectiveness 43

Chapter 4--Conclusions 45

The Field Experiment 45
Social Incentive Management 46

References 48

Appendix A--Four Alternative Systems for Enhancing Social Reinforcement 49
Appendix B--Questionnaires Used as Dependent Measures 55
Appendix C--Materials for the Leadership Attitude Training System 59
Appendix D--Materials for the Leadership Recognition System . . 69
Appendix E--Materials for the Classroom Behavior Development System 103

Table of Contents - Continued

Page

Appendix F--Additional Analyses and Results 169

Appendix G--The Instructor Opinions about Training Questionnaire. 179

List of Tables

Table No. Page

1 Mean Block Exam Scores for the Four Research Groups 26

2 Mean Instructional Hours per Block for the Baseline and Experimental Groups 28

3 Intercorrelations Among Total Scores from Airmen Attitudes Toward Training Questionnaire at Chanute Air Force Base 29

4 Overall Mean Attitude Scores (averaged over items and blocks) 30

5 Mean Attitude Scores from Different Treatment Groups Across Administrations of Airmen Attitudes Toward Training Questionnaire 31

6 Airmen Attitudes Toward Training Items 33

7 Item Means from Airmen Attitudes Toward Training Questionnaire for the Entire Sample and Each Experimental Group 34

8 Overall Mean Scores of Instructors' Assessments of Students' Effectiveness from Different Treatment Groups Across Administrations of Assessment Questionnaires 35

9 Intercorrelations Among Scores from Airmen Attitudes Toward Training and Instructor Assessment of Student Effectiveness Questionnaires 36

10 Aptitudes of Trainees in Different Treatment Groups 38

11 Correlations of Aptitude Tests with Block Exam Scores and Number of Instructional Hours Per Block 39

List of Tables - Continued

Table No.		Page
12	Intercorrelations Among Block Exam Scores and Instructional Hours Per Block	41
13	Correlations of Scores on Airmen Attitudes Toward Training and Instructor Assessment of Student Effectiveness Questionnaires with Aptitude Scores, Exam Scores and Number of Instructional Hours Per Block	42
A-1	Trainee Perception [illegible] egree of Present and Ideal Occurrence [illegible] ip Behaviors, with the Trainee as Agen [illegible] get of the Leadership Behavior	52
A-2	Incentives Proposed for Inclusion in the Social Contingency Systems	53
F-1	Airmen Attitudes Toward Training Items and Instructor's Assessment of Student's Effectiveness Items	170
F-2	Means from Airmen Attitudes Toward Training and Instructor's Assessment of Student's Effectiveness from Baseline Treatment Across Administrations	171
F-3	Means from Airmen Attitudes Toward Training and Instructor's Assessment of Student's Effectiveness from LATS Treatment Across Administrations	172
F-4	Means from Airmen Attitudes Toward Training and Instructor's Assessment of Student's Effectiveness from LRS Treatment Across Administrations	173
F-5	Means from Airmen Attitudes Toward Training and Instructor's Assessment of Student's Effectiveness from CBDS Treatment Across Administrations	174
F-6	Means from Airmen Attitudes Toward Training from Control Group at Chanute Air Force Base	175
F-7	Item Means from Instructor's Assessment of Student's Effectiveness Questionnaire for the Entire Sample and Each Experimental Group	176
F-8	Intercorrelations Among Aptitudes from Airmen in All Treatments at Lowry Air Force Base	177

Chapter 1

Introduction

Project Origins

This project originated in two broad streams of research in the behavioral sciences, one dealing with contingency management, the other dealing with motivation and learning. Recent developments in these two areas resulted in the Air Force Human Resources Laboratory initiating research on incentive reward systems (see AFHRL TR 74-24) and to the current research on social incentives in technical training.

Objectives

The present study was undertaken to accomplish four objectives. The first objective was to comprehensively review published literature on social incentives. A review covering all books, monographs, doctoral dissertations and journal articles in this area has been completed (Raben, Wood, Klimoski and Hakel, 1974).

The second objective was to identify and scale social incentives in the technical training setting. Site visits were made to the five technical training centers and observations were made in a variety of different courses. These observations, plus the review of the literature, yielded over 60 social incentives potentially available in the technical training environment. These incentives were scaled using multiple scaling methods and a previous report (Wood, Hakel, Del Gaizo and Klimoski, 1975) covers scale values and group differences and similarities in incentive attractiveness.

The third objective was to develop social incentive instructional systems. Each system represents an alternative way of looking at the interrelationships among behavior of trainees, the adequacy of those behaviors, and social incentives which are presented contingent on emission of desired behaviors. Many alternative systems were considered, ranging from "token economies" (Ayllon & Azrin, 1968) to Hawthorne effect groups. This document reports the development of several social incentive instructional systems.

The fourth and final objective of this project was to field test several alternative systems to study their effectiveness in improving the achievement and morale of technical trainees, and to study the cost effectiveness of the systems. The findings of a field test in the Electronics Fundamentals course at Lowry Technical Training Center are presented in this report.

Short Summary of Literature Review

Over 400 titles were reviewed, dealing with topics such as behavior modification, learning theory, educational psychology, theories of classroom behavior, programmed instruction, decision theory, instrumentality theories, motivation and expectancy theories, equity theory, wage and salary administration, group dynamics, power and influence, group and individual conflict and competition, leadership theory, attitude theories, person perception, interpersonal attraction, exchange theory, attribution theory, reactance theory, personality theory, and nonverbal communication (Raben et al., 1974).

The major conclusions of the review are the following:

1. Previous research on social reinforcement has primarily studied verbal praise as the reinforcer. Additional reinforcers studied under the rubric of social incentive systems have modified some behaviors, but do not yield generalized dimensions for the delineation of a social reinforcement concept. As a preliminary definition, a reinforcing stimulus is "social" if its reward value arises from, and is delivered by, another individual or group interacting with the reinforced subject.

2. Results on behavior-change effects of social reinforcers are equivocal. Comparisons of social and nonsocial reinforcement effects have shown divergent results across studies. The superiority of a particular class of reinforcers depends on the behavioral criterion (e.g., performance speed, accuracy, or persistence), the nature of the task (e.g., concept formation, learning tasks, intelligence testing, imitative responses), and individual differences in age, sex, and socioeconomic status. Some evidence favors the combination of social and nonsocial reinforcers in an operant behavior-change system.

3. Characteristics of the subject affect his responsiveness to social reinforcement.

   (a) Significant social reinforcement effects have been found in clinically deviant populations. However, in the few research reports offering comparisons to "normal" subjects, no differential affects were found.

   (b) Contrary to theoretical expectation, subjects low in perceived similarity to parents are more responsive to social reinforcement than parental-similar subjects. This effect may be due, however, to the novelty of social reinforcement, if in fact it is less prevalent in the home of low-similarity subjects.

(c) No conclusions can be reasonably drawn at this time concerning socioeconomic status as a moderating variable. In examinations of social reinforcement effects on lower- and middle-class children, 3 studies showed no differential effects, 3 studies reported greater response to social reinforcement in the middle-class group, and 1 study showed that middle-class subjects also responded at a higher level to tangible incentives.

(d) Though evidence is meager, older persons seem to respond more to social reinforcement than do younger people. Studies documenting age relationships have, however, been restricted to samples of children and elderly adults.

(e) Effects of sex and race appear dependent on subject-reinforcing agent interactions. With regard to the reinforcing agent, social reinforcement effects tend to diminish when the agent is replaced by a different agent. Additionally, one's social peers tend to be effective reinforcing agents.

(f) Attempts to relate social reinforcement effects to personality differences have generated little knowledge. The only variable demonstrating a fairly direct effect is that of affective state, where depressed states inhibit social reinforcement effectiveness. This variable, of course, may also be situationally, as well as personally determined. Theorists have suggested other possible relations to social motivation and locus of control.

4. A variety of behaviors has been found amenable to change with social reinforcement. These behaviors include various forms of verbal behavior: attitudes; clinical phobias; group participation, cohesiveness, and leadership behaviors; and, though less clearly, classroom behaviors. An interesting finding from the classroom research showed the effectiveness of making individual reinforcement contingent upon group performance. Of further interest to trainers are findings that social

reinforcement increased: (a) altruistic behavior and, (b) basic combat training performance in the Army.

5. Several dynamics of the reinforcement process play an important role in determining its effectiveness. Partial reinforcement has been found more effective than continuous reinforcement for both social and nonsocial incentives; results are mixed, however, concerning the relative efficacy of specific partial reinforcement schedules. Vicarious social reinforcement also affects behavior, although effects vary with characteristics of the model being employed. Motivation theory and research also suggest that reinforcement effects require awareness of behavior-reward contingencies, the availability of positively valued rewards, and feedback. The reinforcement value of feedback appears to depend on its dual functions of providing information (knowledge of results) and social approval. Understanding the process dynamics of social reinforcement has been furthered by concepts from cognitive consistency and expectancy theories of human motivation. Motivational aspects of incentives that may be responsible for their effects include their magnitude, contrast, stability, and mediating effects on goals and intentions.

6. The effectiveness of social reinforcement may be related to previous deprivation. However, the deprivation-satiation function has also been found to depend on: a) whether reinforcement is direct or vicarious, b) differential reinforcement histories (and environments) across races and social classes, and c) general attention level of the subject.

7. Generally speaking, then, while social reinforcement offers a potential path to behavior modification, its predicted effects are presently intertwined with a vast number of "moderating variables." Situational constraints derive from a complex interaction of subject and reinforcing agent characteristics, behaviors being reinforced, and the dynamics of the reinforcement process. In reviewing research in this area, two basic problem areas may be noted. First, considerations of methodological rigor in specific studies prevent drawing firm conclusions about particular relationships and effects. Second, and more importantly, the literature lacks a sound theoretical base for predicting effects of social reinforcement, directing research, and integrating its results into a comprehensive body of scientific knowledge from which practical applications can be successfully derived. Future research should systematically investigate determinants of the value of social incentives and the processes through which they can be applied to changing human behavior in social and learning settings.

Short Summary of Incentive Analysis

To explore incentive systems for the development and maintenance of social and learning behaviors in Air Force technical training, potential rewards were identified and studied in the technical training environment. The objective was to identify items which would function as meaningful incentives for trainees to learn quickly and efficiently and maintain favorable attitudes toward their roles. The incentives would also be feasibly implemented in behavior-contingent reward systems. Further, the investigators examined variables associated with the organizational environment and the participants in the system which might affect the utility of social reinforcement.

Sixty-two potential incentives were identified through discussions with training personnel, intensive literature reviews, and idea-generation by the research staff. Data pertinent to the characterization of the incentives were obtained through systematic questionnaire administrations to 463 trainees and 102 training instructors at the five technical training bases in Texas (2), Louisiana, Illinois, and Colorado. These administrations were phased so that initial investigation occurred at four bases, and a refined follow-up study was conducted at the fifth base, where an experimental incentive system would later be implemented.

The major results of the research and conclusions concerning training incentives can be summarized as follows:

(1) The perceived attractiveness or psychological reward value of the identified incentives varied greatly although very few were considered unattractive. The range of variation is restricted to the neutral-to-extremely attractive portion of the rating measurement scale. In a very general way, the more attractive incentives are those with direct impacts on the trainee himself and his future career. The more attractive incentives also tend to have higher administrative cost implications. The less attractive incentives involve public recognition and identification with superiors.

(2) Multiple methods of measuring incentive value showed substantial agreement, especially when the number of incentives to be judged was not excessive. Anchoring attractiveness to dollar judgments of their relative worth as incentives seems a plausible measurement technique with subsets of ten or fewer incentives being described simultaneously by the judge.

(3) Factor analyses of incentive attractiveness ratings indicated several dimensions or categories of incentives. Recognition is the major factor in the present set of incentives, and secondary dimensions are personal freedom,

self-development, social interaction, and information feedback.

(4) Incentive value judgments can to some degree be predicted by assessing the characteristics of potential recipients and their training environment and background. Particularly strong and consistent correlates of incentive attractiveness included the trainees' sex, race, marital status, and personal motives, and the leadership climate of his immediate training environment. Incentives with direct implications for social interaction were more attractive to females. Black trainees evidenced preferences for recognition-related incentives, while white airmen preferred control and future career oriented rewards. Married trainees viewed a diverse set of incentives as more attractive than did single trainees. Incentive preference patterns were differentiated by individual motives, especially recognition motives; motives to exercise power, to affiliate, and to engage in altruistic behaviors were also related to preferences for incentives which would facilitate attainment of the respective motivational goals. Leadership climate dimensions of consideration and initiation of structure were also related to preferences for many different incentives; the basis for these relationships might involve climate-related deprivation of rewards or a climate conductive to the use of such motivational stimuli.

(5) The value of incentives depends in part upon the agent of their administration. While several recognition-related rewards were more highly valued when the instructor served as the reinforcing-agent, the lack of reinforcing-agent differences for other social incentives suggests that peer reinforcement may be an effective delivery mechanism for incentive systems stressing social reinforcement.

(6) Incentive feasibility, in terms of the extent to which they could be implemented and tied to classroom performance varied across incentives with the majority being viewed as somewhat feasible. Trainees' judgments of feasibility were related in many instances to their attractiveness ratings. Instructor-student agreement on incentive feasibility was quite high. Instructors' judgments were related to their attitudes toward experimentation in their jobs, their willingness to spend time with students, and their general attitudes toward incentives for learning. Instructors' job attitudes were also related to their expression of preferences for instructor incentives to participate in research. The instructors' feasibility

judgments of a few incentives were also associated with their perceptions of ideal instructor behaviors or leadership climate.

These analyses served as the basis for selection of incentives to be used in constructing four social incentive instructional systems. The complete report of the incentive identification and scaling is presented in Wood, Hakel, Del Gaizo and Klimoski, "Identification and analysis of social incentives in Air Force Technical Training" (AFHRL TR 75-10).

Managing Social Incentives

Social reinforcement is a complex, intangible and transient phenomenon, and analyzing and then managing it requires high effort and consideration of many interrelated variables. In constructing the various social incentive instructional systems, several requirements and constraints had to be met:

1) Socialness of incentives. The foremost requirement for the systems was that they involve at least some social incentives. It was desired to study incentives which did not carry financial implications, and thus, attention was focused on non-monetary incentives. (It was desired to include in this experiment a comparison group which would receive financially based incentives in order to contrast their efficacy with that of non-financial "social" incentives, but a lack of resources prevented the inclusion of such a group in the present study.)

2) Attractiveness. The social incentives to be studied should be of relatively high attractiveness. The scalings of incentive attractiveness obtained at the various technical training centers served as a basis for identifying incentives to be included in the systems.

3) Concreteness. Both "concrete" and "abstract" social incentives should be included in the systems and studied for their relative impact. A "concrete" incentive would be something like a certificate, while an abstract one might involve praise or feelings of recognition.

4) Magnitude. Procedures were desired that could easily accommodate both easily scaled incentives such as certificates and incentives which could not be so easily scaled for their amount (or magnitude) such as feelings of recognition.

5) Ambient levels. Ambient levels of incentives already operating within the classroom were to be measured. It was expected that many social incentives were already available within the classroom although these may have been available only on a non-scheduled, non-contingent basis. It was

important to know the amounts of incentives already available, and to investigate the extent to which they could be made contingent on desired behaviors.

6) Behavior contingency. Systems were desired which would accommodate both incentives which could be meaningfully made contingent upon examination performance and incentives which could not be so managed. Some incentives such as certificates, press releases, time off from squadron duties and weekend passes could be made contingent upon specified performances while other desired social outcomes such as feelings of recognition, accomplishment and belonging to a group could not logically be made contingent on any specific behavior.

7) Delay of reward. Systems were desired that would accommodate delay of reward. It is widely held that the longer the delay between emission of the desired behavior and the presentation of the reinforcer, the less likely it is that performance will be maintained at a high level. As a result, symbolic means of reducing the delay are widely used. The most common approach is to present a token immediately after emission of the desired behavior. The token is symbolic of the reinforcer to be presented later. In time the token itself acquires reinforcing properties.

8) Ease of implementation. Systems were desired that would be easy to install and make operational in the technical training setting. They had to be easily communicable to the instructors who would actually operate and administer them.

9) Ease of monitoring. The systems had to be amenable to easy monitoring. This involves ease of record keeping by both technical instructors and the experimenters, monitoring to see that the experimental treatments were administered in accordance with instructions, and monitoring to see that the manipulations had measurable effects.

With these design objectives in mind, several alternative social incentive instructional systems were devised and considered. (See Appendix A for some alternatives, which were devised but not evaluated.) The three systems which were actually evaluated in the field experiment are described in the next chapter. Each of the systems sought to influence classroom social leadership which would in turn yield higher performance and morale. They were compared and contrasted with another social intervention, a Hawthorne effect treatment, a treatment which derives its efficacy from subjects' knowledge that their behavior is being observed and that they are participating in an experiment.

Chapter 2

Procedure

Overview

The underlying premise of the experimental systems was that it is important to develop interpersonal and leadership skills and capabilities within the technical training context. Furthermore, it was felt that this can be done by analyzing the group forces, norms and dynamics already existent in the class setting to support, develop and acknowledge classroom leadership. While the original intent of the research project was to go further and to buttress these group forces with specific external, tangible incentives, it was not feasible to do so given the specific research environment. In summary, the research undertaken called for the development, implementation and evaluation of four instructional systems to be carried out in sequence on several classes of trainees. It was felt that these systems could impact on and improve student performance, attitudes and leadership capabilities. Furthermore, the systems were varied in complexity and rationale and specific predictions could be made as to their differential effectiveness.

Course Selection

For a field evaluation of these systems, the course selected had to possess several key attributes. Because of an increased emphasis on self-pacing and individualized instruction in technical training, a course of this sort was desirable for the present research. Further, to construct a demonstration project in a specialty with a large course flow was important for two reasons; first, this would provide maximal payoff to the Air Force if an instructional system were to actually be used; and second, it would facilitate research data collection in a study where several replications of each instructional system were necessary. A predicted high future demand for the particular specialty chosen was also desirable. Two other concerns were related to the course content: it should be of moderate complexity and difficulty to allow a greater potential range of predictor and criterion scores, and the units of instruction (blocks) should be short enough in duration to construct several measurement periods. A class context where students were in some close physical proximity and where interpersonal activity was possible was also desirable. A final consideration involved logistics; where contact with the Air Force Human Resources Laboratory (HRL) staff appeared important, a strong preference existed for research in a course taught at Lowry Air Force Base. With these parameters in mind, the course on electronics fundamentals taught at Lowry was chosen as the research vehicle.

This course of instruction consisted of 12-14 blocks whose average completion time was 30 hours each. As a self-paced course a group of students (a class consisting of 4-12 trainees) would start their studies at a given time (typically on a Wednesday) and then be allowed to proceed at their own rate of learning. In consultation with the instructor, a trainee would decide when to take a block exam and to move on to more advanced instruction. Thus, it was feasible to use the amount of time needed to master the material as a rough indication of student achievement. Because different blocks of instruction were prescribed for different specialties enrolled in electronics fundamentals later in the course it was decided to focus on performance in the first four blocks of instruction for the purposes of the study. This encompassed a period of three to four weeks, depending on the student.

Subjects

The participants in the field experiment were 231 trainees at Lowry Air Force Base and 69 at Chanute Air Force Base. The specific number and class size are reported with the description of the experimental conditions. These airmen had just come from basic training at Lackland AFB and were in a sequence of course work that prepared them for a number of specialties (e.g., precision measurement, etc.). The electronics fundamentals course was the first in this sequence.

For some of the experimental instruction systems the course instructor played a particularly crucial role. There were 25 instructors involved in the study, two of whom participated in two experimental treatments.

Dependent Measures

The intent of the Social Incentive Instructional Systems was to increase student motivation, classroom performance and attitudes (including leadership orientation). Toward this end a variety of measures were obtained or developed and administered according to a regular sequence. In general these data were gathered within the first four weeks of the course of instruction.

Performance records. Indices of performance are regularly kept on record for each recruit. For purposes of this study performance data from ATC Form 156 were transcribed: a) block exam scores, b) number of hours spent to pass each exam, and c) the number of times a block exam was attempted. For each student values for each of the first four blocks were obtained.

Instructor evaluations. The course instructor was asked to evaluate each trainee on a specially constructed scale (see Appendix B) covering student performance. On this form judgments were made on six items using a seven point continuum of evaluation. These forms were filled out for each trainee on four occasions; i.e., the first four Fridays of the course.

Trainee's attitudes. Each Friday during the four weeks of the course in question students filled out an instrument called the Airman Attitudes Towards Training (see Appendix B). On this form they responded to items asking for their satisfaction in several areas of the Air Force experience, including the course, the instructor, the base, the military in general.

Ancillary Data

For each trainee aptitude test scores were obtained (AFQT, AQE scores including general, mechanical, electrical, and administrative). These data were used to examine individual differences in aptitude, and to adjust for such differences (via covariance analysis) if needed.

The Social Incentive Instructional Systems: Rationale and Method

Several recent reviews of the published literature conducted as part of this research effort provided the goals, format, rationale or measurement approaches used in the systems to be described. However, the actual delivery system was often a product of the complex forces operating in the technical training context.

System 1: The Baseline Control Condition. (N = 86, 10 classes) Several research studies have documented the fact that changes in a system can occur without a true intervention; that merely observing or measuring a group can produce an effect. This is sometimes referred to as a Hawthorne effect (Roethlisberger & Dickson, 1939). Recent examples have been cited by Rosen (1970) and Pritchard Von Bergen and DeLeo (1974). In the present experiment it was important to know to what extent the mere discussion of morale, of giving recruits attention and of frequently measuring their attitudes could produce actual performance and attitude changes. This condition consisted of: a) a class interview, and b) regular measurement periods.

An extended interview was carried out with each class during the first two days of the course. In a period of 25 minutes a representative of the Ohio State University research team, ostensibly in conjunction with HRL, asked a series of questions designed to identify the climate of learning in technical training. The course instructor was not present and the session was audio recorded. Groups of from six to ten students were asked about the following:

1. The present course structure
2. Exams, frequency of feedback
3. Instructor evaluations, trainee evaluations

4. The Air Force in general, information, goals
5. The Air Force as a career, benefits, drawbacks
6. Feelings of team membership, camaraderie
7. Changes desired in training

The purpose of this session was to raise key issues that bear upon learning and to convey to the students that important agencies were concerned for their welfare.

The measurements taken were those to be taken in all conditions in the research project. Student attitudes were obtained on four occasions, on each Friday of the first 28 days of course work. Instructor assessments were also made on this schedule. Finally, performance (grades and time) was measured for each of the first four blocks.

System 2: The Leader Attitude Training System (LATS; N = 56, 7 classes). The concern of the Social Incentive Instructional Systems was to improve performance in a technical training and learning context. The social incentive research literature supports the notion that interpersonal relationships and the behaviors of trainees toward one another are important in a positive learning climate. Systems 2, 3, and 4 were designed to use different mechanisms and amounts of complexity to establish this learning environment. A basic rationale for all these systems is that people provide many rewards or incentives in a group setting, especially in a learning situation. Not only do people possess tangible rewards (e.g., help, knowledge, information) which they may provide others, but they also have the capability of providing incentives that affect the esteem and self-concept of the recipient. These include praise, respect, affection, and trust. In the military context the use of these "people linked" incentives is also quite important. They are particularly legitimate in the context of developing the "whole man," and in the inculcation of leadership skills and potential. Thus, it is within the framework of developing leadership that these systems have been applied. That is, each of these experimental systems stresses leadership processes and competencies in a classroom setting, and furthermore, they do this while attempting to maximize the potential for social incentives to operate. In fact, social incentives such as recognition, self-knowledge (feedback) and growth are fundamental to systems 3 and 4.

System two was considered a weak form of the Social Incentive Instructional System. The intervention consisted of a booklet--The Leadership Orientation Booklet--which was delivered to the students on the first day of technical training. Since much of the orientation in the military is carried out in this way, the LATS was felt to be consistent with current practices. A copy of the booklet and an explanation of its use is provided in Appendix C. In brief, the 10 page document is made up of examples and anecdotes, quotations and phrases all stressing the nature and importance of classroom leadership. Specifically, the material was designed to: a) stress the importance of developing leadership potential as the airman begins his technical career; b) communicate at the outset of training what is expected in terms of leadership behaviors; and c) communicate these expectations in a novel, interesting way. Students were asked to read it over and were encouraged to ask questions of their instructor as necessary. As part of a package of literature given to the trainee, it was not singled out from the other materials they were to assimilate. After its indroduction no further mention of the booklet was made to the trainees in this condition.

Student attitudes and instructor assessments were made at four weekly intervals. As in condition 1, performance data were also recorded.

System 3: Leader Recognition System (LRS, N = 53, 6 classes). This experimental instructional system explicitly used social incentives (recognition, self-knowledge, etc.) to develop leadership behaviors and to promote learning. At specified intervals the trainees in a given class were asked to nominate (i.e., recognize), fellow classmates as effective leaders. The consequence of receiving a nomination was not any tangible reward but the knowledge that one (or more) of your peers felt that you were competent and had demonstrated leadership. This should lead to the pride, self-esteem and confidence that generally accompany such knowledge. A copy of the LRS booklet and the instructor's manual is given in Appendix D. Thus, the LRS was designed to: a) recognize effective leadership in the technical training classroom, b) aid in the development of the trainee's leadership skills and c) contribute to the recruit's personal growth.

The LRS involved several sessions in a prescribed sequence. After the instructors were briefed on the system by a project staff member, they were expected to carry out the program with the assistance of a manual. On the first day of classes, trainees were given a guide describing the LRS and asked to read it for a later meeting. On the third day the instructor covered LRS in greater detail. Its rationale and purpose was explained. More importantly, classroom leadership was defined as behaviors which*:

1. show support of other peoples' behavior
2. show concern and respect for the needs and feelings of others
3. treat people as individuals
4. help others solve problems
5. encourage others and praise their accomplishments
6. initiate friendships with others
7. increase the togetherness and pride of the class
8. help others accomplish training goals

These behaviors could be exhibited during the regular school day and are social in nature. The trainee exhibiting them used interpersonal processes and relations to affect others in a positive manner. Furthermore, in LRS, the recognition provided by peers for these behaviors is itself a powerful social incentive.

---

*These are listed on LRS materials.

Within the first four weeks of class, each trainee was asked to nominate on two occasions (on the ninth and nineteenth day) at least three classmates who had exhibited (at least one) of the behaviors listed. A trainee could not nominate himself but he could nominate all his classmates if they so merited. With each nomination (one to a page), the student was to indicate the behavior episode, or incident, on which he based his judgment.

The instructor played a key role in LRS. After each nomination period he collected and reviewed the results. He recorded the nominations on a summary form. The next day (the 10th and 20th class days) the instructor distributed the nomination forms to the students achieving them and met individually, in private, with each of his trainees. No public posting of nominations was carried out. The emphasis was on recognizing the leadership potential of all trainees, not just top performers. During this meeting (coaching session) the trainer's role was to act as an advisor and interpreter for the student. The instructor was to stress behaviors recognized in these nominations a student receives, to encourage continuance of these behaviors, and to challenge the student to work on those behaviors defined as classroom leadership in which he was not effective. For students not receiving any nominations, the session was a problem solving period wherein the student's perceptions and behaviors were reviewed and constrasted to the class's reactions. LRS emphasized self-development, the setting of specific goals and open communication among trainee and instructor. A more complete description of this important feature of LRS can be found on pages 11 through 15 of the LRS instructor's manual (Appendix D). The student's manual passed out on the first day of classes carries parallel descriptions of the activities involved.

As in the other systems, trainees' attitudes and instructors' assessments were obtained on four weekly occasions. Block exam scores and the number of hours spent on each block complete the measures taken.

System 4: The Classroom Behavior Development System (CBDS, N = 36, 4 classes). This system was designed for maximum impact on the training program. Its goals were to facilitate learning and to generate high morale by enhancing the quality of student-instructor interactions and by increasing student motivation through the systematic use of social incentives. Basic to this program was the use of several student-group and instructor discussion sessions during the first five weeks of training. Because of the importance of early experiences on learning, activities in the first week of training were especially important. Furthermore, embedded in the CBDS were the LRS nomination exercises. A brief outline of events in the CBDS is given as follows. A copy of the student's guide and instructor's manual is provided in Appendix E.

On the first day of class, the instructor briefed the students with an overview of the CBDS and tried to convey to them that technical training can be maximally effective in a cooperative, supportive, learning environment. Mutual respect, openness and trust were cited as goals for CBDS. Questions about the system (in general) were then answered. Since a recognition of the differences that exist among trainees is important for tolerance and respect, the instructor demonstrated his knowledge of the diverse backgrounds of his students. The Acquaintance Register form (in the instructor's manual) was developed as a systematic way of having instructors gain knowledge of trainees. Similarities and differences among them were to be recorded. Then, during the latter part of this first meeting, the instructor was asked to describe how he felt when he was a trainee and to describe his own feelings toward them at the present time. This self-disclosure and openness was to serve as a model to the students, to make them realize the instructor's willingness to help them. Finally, the first session was ended with a look forward to the next CBDS meeting.

The second session of the CBDS took place on the second day of class. Using a class discussion format, the goals of the session were: a) to develop a psychological contract--both students and instructor were to establish a clear idea of what was expected of each other, and b) to get students to participate and to be open about their own concerns (i.e., trust building). Again, it was incumbent upon the instructor to start these processes by opening up to his students. What did he expect of them? How did he see squadron life relating to technical training? For their part, students were to consider how they felt about themselves, what they wanted to get from training, and what information or help they needed to do a good job in training.

Session three was devoted to the Leadership Recognition System discussed previously. The instructor described the system completely to his students, gave examples of classroom leadership and informed them of the nomination and coaching sessions. This was done on the third day of classes. A major addition to the LRS in the present case was the use of a Leadership Planning Form (LPF--presented in Appendix D) which was designed to get students to state clearly their intentions as to how they would behave in the class with reference to leadership. The Leadership Planning Form required the student to judge the relative difficulty (for him) of the leader behaviors listed in the LRS. Furthermore, he was asked to judge the importance and the frequency with which he feels he already does these things. Then, the student was asked to single out a key behavior and to write down a plan of action which he would carry out in the next two weeks to increase his capabilities in this important but deficient area. The final requirement of the form was for the student to indicate toward whom these behaviors are to be directed. The LPF was designed for the student's benefit. He need not show it to anyone.

The fourth session occurred on the ninth day of classes. The goals were to use the Leadership Recognition Forms and to review the progress and development of relationships in the class. The former was carried out as in system 3. Each student generated nominations in accordance with observed leadership behaviors. The review session was designed to determine if the psychological contract worked out by the class had been met, what problems still existed, what changes should be made, etc. In particular, at this point the instructor may have discussed certain obstacles trainees seemed to be facing, or, he may have suggested additional information that would make their field of study more interesting and meaningful.

As in the LRS, session five was made up of a private, individual interview with each student to discuss his nominations and interpret his progress. This occurred on the tenth day of classes.

The sixth session took place on the twelfth day of class. The instructor and his class reviewed examples of good leadership and took part in a role playing exercise. That is, they acted out some behavior episodes as a form of a demonstration. By acting out two or three incidents the instructor was able to point out the importance of perceptions and how they affect interpretations of a situation or behaviors. For example, different reactions to an action could be expected if only small aspects of the situation are changed. The importance of timing and of intentions is made clear. After these demonstrations the instructor selected three students to participate in an Action Learning case. The instructions for this case study are given in Appendix E. Each participant was given separate information and was asked to act out the case. Further examples of classroom leadership were made clear by role playing in the Action Learning case.

After this was done, the class and instructor set goals for the group with regard to leadership. A kind of behavior that occurred infrequently in class up to that point (e.g., reducing conflict) might be chosen for special emphasis. The class was considered and was asked to consider itself as a group, an identifiable unit in an effort to build morale. Finally, classroom performance was reviewed: How was learning progressing, was everyone a high performer, what can be done to promote learning? If common problems in a technical area persisted, a strategy for dealing with them was worked out at this time.

Sessions seven and eight took place on the 19th and 20th day of classes. These involved the LRS, as described above, where nominations for leadership effectiveness were first elicited and then fed back individually to students.

The ninth and last formal session of CBDS was held on the 25th day of class. Its purpose was to summarize the experiences of the class members as they worked through the CBDS. The first part of the discussion was directed toward the learning climate of the classroom. Activities which helped learning were cited and barriers which still existed were pointed out. Suggestions for change were solicited. Finally, the class had an opportunity to propose further development activities which they would like to carry out in the remaining weeks of training. Thus, while this was the last official CBDS exercise, it was possible for the class to adopt appropriate and similar activities to help them become competent in the course material and to become effective leaders.

As in the other systems, students' attitudes and instructors' assessments were obtained four times on a weekly basis. Student achievement with regard to block exams and number of hours needed were also recorded for analyses.

In addition to the four systems, there was another condition (N = 69) which served as a further control group. In order to obtain a baseline wherein no treatment or experimenter effect could be implied, a group of trainees at Chanute Air Force Base were asked to fill out the Airman Attitude Toward Training Questionnaire. Personnel from the Training Research Applications Branch administered these questionnaires to trainees in the course, Basic Electronic Repair (Course No. 3AQR 40020). Attitudes were collected on four occasions, each separated by one week. Trainees were led to believe that their participation was due to chance and that the data gathered were for a routine revision of a questionnaire already in use. It should be noted that the data from these trainees consisted of self-reported attitudes only and no performance records were obtained. A second point is that the course at Chanute was structurally similar to fundamental electronics at Lowry but was more applied in nature. However, since the data gathered were obtained in the first four weeks of instruction, this factor was felt to be of minimal impact.

Schedule

The sequence of activities occurred as outlined in each experimental system. For the experiment as a while, the conditions were carried out sequentially. The Hawthorne was followed by the Leader Recognition System, the Leader Attitude Training System and then the Classroom Behavior Development System. This took a period of approximately 3 months. The data gathered at Chanute were obtained from trainees in class at about the same time as the CBDS was implemented.

Analyses

A variety of statistical analyses were carried out to assess the impact of the various experimental systems. Analyses of variance with the systems as independent variables were performed using performance, assessment and attitude data. Changes over time (the four measurement periods) were examined and related to the instructional systems. Finally, correlational analyses were carried out to determine the relationship of trainee background characteristics to performance indices and the co-association of these indices among themselves.

Chapter 3

Results and Discussion

Overview

This chapter reports the findings from the field-experimental evaluation of three social incentive instructional systems implemented in the first 4 blocks of the Electronics Fundamentals course at Lowry Technical Training Center, Colorado. Data on the performance of the systems were gathered during the spring and summer of 1973.

Small, probably unimportant student performance and student attitude effects were obtained. Findings concerning student performance are presented first, followed by discussion of student attitudes, instructors' evaluations of student performance, and prediction of student performance and attitudes from aptitude test scores.

Performance on Block Examinations

A primary dependent variable in this research was student achievement on standard, objectively-scored end of block examinations. Exams are administered and scored by an independent tester. A student is administered an exam when the instructor deems he is ready. Since the course is organized in a Learner Centered Instruction (LCI) framework, each student works at his own pace and may be admitted to a block exam far earlier or far later than others in his classroom. Indeed, each student in a classroom may be studying a different block. The typical class size was eight students (the minimum course length was 13 blocks). For this experiment, classes were selected where all students in the room began Block 1 on the same day. Exam scores are expressed as a percentage of correct answer, and each student must achieve a passing score of 70% before proceeding to the next block. From a programming and normative standpoint, it is expected that each block can typically be mastered within 30 instructional hours.

Table 1 presents the mean exam scores from each block for the four research conditions. In addition, Table 1 presents F-test results from within-block analyses of variance. In general, there are no important within-block differences in achievement among the baseline and experimental groups. In Block 3, students in the LRS treatment scored significantly lower than students in other treatments, a result which is most likely due to low exam scores earned by several students who were subsequently washed out of the course (number of dropouts in baseline = 3, LATS = 3, LRS = 9, CBDS = 1).

The social incentive instructional systems produced no improvement in achievement on block exams. This could be due to a general insensitivity

Table 1

Mean Block Exam Scores for the Four Research Groups

			Condition				
			Baseline	LATS	LRS	CBDS	F Test
			N = 86	N = 56	N = 53	N = 36	
EXAM SCORES	Block 1	Mean	85.92	89.14	87.18	91.44	N.S.
		S.D.	22.06	17.85	13.43	7.13	
	Block 2	Mean	82.70	82.68	81.05	86.68	N.S.
		S.D.	17.55	14.20	17.19	10.40	
	Block 3	Mean	83.15	84.54	74.54	85.32	3.77*
		S.D.	17.30	13.92	22.60	9.26	
	Block 4	Mean	77.86	77.45	76.70	80.35	N.S.
		S.D.	19.54	14.86	13.56	9.96	
	Overall Mean		82.41	83.45	79.87	85.95	3.01*
	Overall S.D.		19.11	15.21	16.70	9.19	

Note: *p < .05

of achievement tests to the impact of social climate variables and manipulations. It could also be due to a psychometric difficulty, the relatively low "ceiling" of the exams (e.g., showing improvements in an average that is already high, about 85% in this course, is much more difficult than if the baseline average is lower). Exams yielding baseline scores around 50% would have been more sensitive to the differential effects of various experimental systems, although such effects might still not be detected. The general lack of effect could also be due to a lack of potency in the systems--as previously reported, there were no direct or specific contingencies between performance on exams and incentives of any kind. Achievement at or above specific levels was not systematically reinforced by tangible incentives. Although such a system was planned, it was not implemented due to shortages of resources (time, funds, and trainees), and in any event such a system probably could not have overcome the ceiling effect problem concerning the exam scores.

Perhaps the lack of improvement in exam scores as a consequence of the introduction of social incentive instructional systems should be viewed from an opposite perspective--there is no evidence that these systems led to performance decrements. Given that each system diverted student attention from the course content, it is interesting that this had no negative consequence for exam scores.

Performance--Hours per Block

A second performance measure, mean instructional hours per block, was also monitored. Since each social incentive instructional system involved adding activities to an already fully-scheduled curriculum, the question of costs and benefits in increased (or decreased) instructional time is highly important.

Table 2 presents the mean instructional hours per block for the baseline and experimental groups and the total instructional hours for the four blocks, the programmed hours, and the number of instructional hours devoted to participation in the experiment (as estimated from the suggested time limits for the various scheduled activities). In addition, F-test results from within-block analyses of variance are presented.

In Blocks 1 and 2, students in the LRS treatment took significantly longer to pass to the next block than students in the other conditions. This result is most likely due to the low academic performance of students who were washed out of the course after the third block. In any event it is not likely to be a systematic consequence of the LRS treatment. Since the LRS is entirely included as a component of the CBDS, effects due to the LRS should have been observed among students in the CBDS treatment also. No such effect was found.

Table 2

Mean Instructional Hours Per Block for the Baseline and Experimental Groups

					Condition		
			Baseline	LATS	LRS	CBDS	**F Test**
			N = 86	N = 56	N = 53	N = 36	
HOURS	Block 1	**Mean**	20.54	20.00	25.33	22.41	3.56**
		S.D.	6.67	4.48	14.97	5.34	
	Block 2	**Mean**	21.55	20.94	29.89	23.71	8.32**
		S.D.	11.98	8.75	17.26	8.45	
	Block 3	**Mean**	31.49	31.53	32.29	32.15	N.S.
		S.D.	14.16	13.59	13.86	9.78	
	Block 4	**Mean**	27.84	26.63	27.00	26.53	N.S.
		S.D.	16.26	12.45	15.12	8.68	
Total instructional hours			101.42	99.10	114.51	104.80	
Programmed hours			120	120	120	120	
Instructional hours devoted to participation in the experiment			1.67	1.67	4.67	8.67	

Note: **p < .01

Implementation of the experimental systems resulted in no systematic increase in instructional time needed to complete the blocks, in spite of diversion of student attention from the course content to the various activities scheduled as elements of the systems. On the other hand, the systems produced no time savings. This suggests that time spent per block may be largely governed by normative expectations that blocks should be completed in 30 hours or less, regardless of the material to be covered. Even the 8 2/3 hours of activities scheduled in the CBDS could be accommodated within the budget of available time.

In conclusion, implementation of the experimental systems resulted in no important changes in the amount of time used to complete the four blocks.

Student Attitudes

The second major dependent variable in the field experiment was students' attitudes toward their technical training experiences. Attitudes were monitored by the "Airman Attitudes Toward Training" questionnaire, specially devised for this field experiment. Containing 10 items dealing with the instructor, the system of rewards, fellow trainees, training content, progress in the course, overall satisfaction with the course, satisfaction with the Air Force, satisfaction with personal development, effort put into the course, and endorsement to a friend, the questionnaire was administered on the third, eighth, thirteenth and eighteenth days of the course. Impact of the various classroom social leadership systems could be studied both among the various systems and in changes over time.

To test the psychometric adequacy of the Airmen Attitudes Toward Training questionnaire, it was given to 69 electronics fundamentals trainees at Chanute Technical Training Center, Illinois, on four consecutive weeks. Table 3 shows the test-retest reliabilities of total scores

Table 3

Intercorrelations Among Total Scores from Airmen Attitudes Toward Training Questionnaire at Chanute Air Force Base (N = 69)

Administration of Questionnaire	1	2	3	4
1				
2	.77			
3	.64	.68		
4	.66	.65	.81	

Administration of Questionnaire

Note: All test-retest reliability coefficients are significant beyond the .001 level.

from the questionnaire. These reliabilities are all sufficiently high to justify use of the questionnaire as a dependent measure.

The major finding of the attitude analyses was that there was no across-the-board improvement in attitudes as a result of the use of any of the classroom social leadership systems. Table 4 presents overall mean attitude scores for the four groups. These scores were derived by summing across all 10 items of the AATT and across all four blocks and then averaging.

Table 4

Overall Mean Attitude Scores
(averaged over items and blocks)

	M	S.D.
Baseline (N = 86)	3.92	.59
LATS (N = 56)	3.95	.54
LRS (N = 52)	3.98	.56
CBDS (N = 36)	4.08	.54
F Test	N.S.	

It is readily seen that none of the systems had a differential impact on overall attitudes.

This general analysis, however, is quite insensitive to specific effects of any experimental system. In particular, the impact of experimental systems is not likely to be felt all at once from the beginning of the experiment and thus a finer analysis, broken down by block, is presented in Table 5. Inspection of Table 5 reveals no significant differences among any of the systems for any of the four blocks. Also, except for the baseline Hawthorne group, there are no significant block to block differences among the means. None of the three experimental systems led to block-to-block increases (or decreases) in overall attitudes. The baseline Hawthorne effect group, however, showed a statistically significant decline in overall attitudes across the four blocks. There are two possible systematic explanations for this particular finding. First, (Post hoc #1, PH1) it may be that attitudes normally decrease over the blocks of the course (or at least across the initial blocks) and that the baseline Hawthorne group merely reflects the typical trend in attitudes.

Table 5

Mean Attitude Scores From Different Treatment Groups Across Administrations of Airmen Attitudes Toward Training Questionnaire

	1		2		3		4		
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	F Test
Baseline	4.04	.54	3.98	.56	3.86	.63	3.80	.63	2.76*
LATS	4.07	.57	3.96	.57	3.92	.49	3.87	.55	N.S.
LRS	4.06	.54	3.94	.60	3.96	.59	3.98	.50	N.S.
CBDS	4.17	.46	4.02	.57	4.12	.55	4.01	.57	N.S.
F Test	N.S.		N.S.		N.S.		N.S.		

Note: $^{*}p < .05$

If there is such a trend, then in fact the other three experimental systems succeeded in reversing or at least neutralizing this trend, and therefore, have demonstrated an important impact on maintaining favorable attitudes. Alternately, (Post hoc #2, PH2) it could be that the Hawthorne effect treatment had an important impact, but in an unfavorable direction. In their experimental induction, it was suggested to the subjects in this group that they were part of an experiment, that their views were important, and that their participation would result in benefits both to themselves and to the Air Force. Since there was no apparent benefit perceived during the four weeks of the study, it could be that the significant decrease in attitudes was a consequence of unfulfilled expectations and disillusionment with the experiment. (It is also possible that varying degrees of freedom in the F tests resulted in reaching significance for the Hawthorne group but for none of the others. This possibility was checked by using the Hawthorne degrees of freedom throughout and the finding was negative, thereby eliminating this explanation.) A partial, after-the-fact test of PH1 and PH2 was made by examining the mean overall attitude scores of trainees at Chanute Air Force Base. It will be recalled that these trainees participated in a reliability study across four administrations of the Airman Attitude Toward Training questionnaire. Mean scores for each administration were computed and then tested for trend. If a significant decrease in attitude trend were in evidence then the plausibility of the first alternative would be increased. In fact, however, there was no statistically significant decrease over blocks in overall attitudes for the Chanute trainees (week 1, M = 4.17, sd = .86; week 2, M = 4.15, sd = .85; week 3, M = 4.03, sd = .91; week 4, M = 4.02, sd = 1.01; F is not significant). Thus, the decreasing trend of attitude scores for the baseline Hawthorne effect group, slightly but not significantly mirrored by the Chanute data, is more likely to be a consequence of the experimental Hawthorne effect intervention (and perhaps to a lesser extent a general decline in attitudes). It can be suggested on the most tentative basis, therefore, that the various experimental manipulations did have significant but very small effects on overall attitudes by preventing a general decline.

The analyses reported above may not however, be sufficiently sensitive to show the full impact of the various experimental systems. It can be plausibly argued that it is unrealistic to expect any classroom leadership system to have an across-the-board impact on all attitudes. Further, an overall score such as computed in this study may mask interactions between various treatments and particular items or content domains.

Mean scores for each of the experimental treatments on each of the attitude items described in Table 6, are presented in Table 7. With the exception of item 3, attitudes toward fellow trainees, none of the differences among the experimental treatments on the items are significant. Only for item 3 did the Classroom Behavior Development System yield a significantly higher attitude score than the other comparison groups ($F = 2.81$, $p < .05$). This item, pertaining to fellow trainees in the course, reflected increased helpfulness, friendliness and cohesiveness among students in the CBDS relative to the other treatments. Examining this difference over blocks, it is apparent that the improved attitude toward fellow trainees originated at the beginning of the course (and therefore most likely was a consequence of the acquaintanceship and psychological contract exercises) and persisted throughout the course. Block by block mean scores for each item are presented in Appendix F. In general, there seemed to be no important interactions between the time of measurement and particular items and experimental systems. For the baseline Hawthorne group, three items show systematic decreases and probably account for the major trend of decreasing attitudes described above. Those items relating to the system of rewards, one's own progress in the course, and endorsing the course to a friend do not show similar systematic decreases in the other groups. The decrease of these items in the baseline Hawthorne group and stability in the other groups is consistent with PH2, described in conjuction with Table 4.

The increased favorability of attitudes toward fellow trainees shown in the data from the Classroom Behavior Development System is probably due to the early exercises (those administered on the first two days of classes). These involved an acquaintanceship exercise and the development of the psychological contract in which trainees and instructor shared their expectations about the content and outcomes of the training course. These exercises deserve further study and possible implementation in other technical training settings.

In summary, analyses of responses to the Airmen Attitudes Toward Training questionnaire, though sufficiently reliable to warrant use of the instrument, showed no significant differences among the experimental

Table 6

Airmen Attitudes Toward Training Items

1. Your Instructor in this course - Taking into account how effective a teacher he is and how he gets along with his students.

2. The System of Rewards associated with being an effective student in this training program - Taking into account what rewards are available and what one must do to get them.

3. Your Fellow Trainees in this training course - Taking into account how well other students make this class profitable for you, how well students get along with one another, and the general togetherness of your class as a group.

4. The Content of this course - Taking into account the interest, importance, and challenge of the material required of you in the course.

5. Your own Progress in the course - Taking into account how well you are doing in terms of performance and how quickly you are mastering the material.

6. Your Overall satisfaction with this course - Taking into account generally all factors which are responsible for how satisfied you are.

7. The United States Air Force - Thinking generally of the system as it is operating and affecting your life.

8. Your own Personal Development during the training you have had so far - Taking into account the confidence you have in your abilities to go out and perform effectively in your Air Force job.

9. How much effort are you putting into this training course; how hard have you honestly tried, regardless of how well you are doing gradewise?

10. Finally, as of how you feel today, would you recommend to a new airman who was your friend that he get involved in this technical training program?

Table 7

Item Means From Airmen Attitudes Toward Training Questionnaire for the Entire Sample and Each Experimental Group

		Overall		Baseline N = 86		LATS N = 56		LRS N = 53		CBDS N = 36		F Test
	Var.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	
ATTITUDES	1	4.65	0.65	4.64	0.71	4.63	0.60	4.65	0.60	4.70	0.67	N.S.
	2	3.30	1.16	3.33	1.03	3.19	1.19	3.35	1.25	3.33	1.26	N.S.
	3	4.39	0.75	4.30	0.80	4.38	0.69	4.39	0.77	4.62	0.63	2.81*
	4	4.13	0.96	4.13	0.97	4.02	1.02	4.18	0.92	4.25	0.86	N.S.
	5	3.87	1.03	3.97	1.00	3.91	0.95	3.62	1.11	3.93	1.05	N.S.
	6	3.95	0.95	3.93	0.96	3.91	0.94	3.97	0.97	4.04	0.94	N.S.
	7	3.65	1.12	3.39	1.20	3.81	1.06	3.86	0.97	3.75	1.09	N.S.
	8	4.09	0.83	4.05	0.85	4.10	0.82	4.15	0.82	4.12	0.79	N.S.
	9	4.00	0.81	3.99	0.83	3.87	0.83	4.00	0.75	4.21	0.74	N.S.
	10	3.72	1.05	3.59	1.05	3.81	1.03	3.73	1.08	3.89	0.98	N.S.

*Note: $p < .05$

systems in terms of overall attitudes, and revealed a favorable impact for the CBDS on attitudes toward fellow trainees.

Instructors' Assessments

To provide further information about the performance of the students in the experimental systems, instructors completed a questionnaire (Instructors' Assessment of Students' Effectiveness, shown in Appendix B) at four points in time during their participation in the study. Data were collected at the same times as the attitude questionnaires, namely, the 3rd, 8th, 13th and 18th class days.

Means were computed for each item at each time period for each of the experimental groups and these means are presented in Appendix G. Since there were no important differences among groups or time periods on an item by item basis, only the overall mean scores are presented in Table 8.

Table 8

Overall Mean Scores of Instructors' Assessments of Student Effectiveness from Different Treatment Groups Across Administrations of Assessment Questionnaires

		Administrations							
		1		2		3		4	
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
GROUPS	Hawthorne	3.49	.67	3.62	.79	3.58	.85	3.58	.90
	LATS	3.61	.86	3.42	.71	3.58	.79	3.46	.74
	LRS	3.25	.54	3.41	.72	3.45	.69	3.52	.87
	CBDS	3.24	.50	3.22	.63	3.38	.73	3.38	.79
	F Test	5.11**		5.25**		N.S.		N.S.	

Note: **$p < .01$

Analyses of variance revealed significant differences among the experimental systems on the first and second administrations of the Instructor's Assessment questionnaire. These differences disappeared on the third and fourth administrations. In addition, there were no significant trends over time for any of the groups. There is no readily apparent, systematic explanation for the two significant F tests. For the first administration the LATS group has the highest assessment while the LRS and CBDS groups are equally low. At time 2 the baseline group has the highest assessment while the CBDS group has the low mean score. Inspection of the item means as shown in Appendix G is of no help in devising explanations that are consistent with these findings.

As one means of trying to examine the meaning of the findings in Table 8, intercorrelations between Airmen Attitudes Toward Training scores and Instructor's Assessment of Student Effectiveness were computed. These intercorrelations are shown in Table 9. Examination of the attitude

Table 9

Intercorrelations Among Scores from Airmen Attitudes Toward Training and Instructor Assessment of Student Effectiveness Questionnaires†

		Airmen Attitudes Administrations				Instructor Assessments Administrations			
		1	2	3	4	1	2	3	4
Airmen Attitudes Administrations	1								
	2	.77** (222)							
	3	.74** (218)	.81** (216)						
	4	.66** (204)	.68** (200)	.80** (202)					
Instructor Assessments Administrations	1	.04 (217)	-.04 (214)	-.01 (210)	-.03 (195)				
	2	.03 (218)	.14* (216)	.02 (214)	.01 (198)	.52** (210)			
	3	.08 (211)	.15* (209)	.14* (211)	.05 (208)	.56** (203)	.75** (207)		
	4	.07 (217)	.07 (214)	.10 (216)	.08 (206)	.53** (209)	.68** (212)	.83** (194)	

Note: *$p < .05$, **$p < .001$
† N's in parentheses

intercorrelations in the upper left hand triangle of Table 9 shows consistently high correlations among the four administrations. Similarly, inspection of the Instructor Assessment intercorrelations in the lower right hand triangle of the table reveals considerable week to week stability. The square section of the matrix shows the intercorrelations between attitudes and instructor assessments, measured at each of the four times. Inspection of this portion of the table reveals no convergence of student attitudes with instructor assessments. Although 3 of the 16 correlations are statistically significant, the highest of them is only .15 and all of them are so low as to shed no light on the meaning of the instructor assessment scores. They do not, to any substantial degree, reflect instructor perceptions of student attitudes.

Further data pertinent to the meaning of the instructor assessments will be presented in Table 13 and discussed later in the text.

In summary, Instructor Assessments of Student Effectiveness were found to be sufficiently reliable, but they reveal a pattern of differences among the experimental systems which is of unknown meaning. Further, an analysis showed that instructors' assessments were not related to student attitudes.

Aptitude

Aptitude scores for all students were examined to test the extent to which aptitudes could predict performance in the course and also to examine the extent to which they might be differentially related to performance in various experimental systems. Table 10 presents the AQE subscores for general, administrative, mechanical, and electronic aptitudes and the AFQT scores for the trainees participating in the various experimental conditions. It will be noted that except for the administrative subtest, there are no significant differences among the groups. For the administrative subtest, students in the CBDS group had a higher mean score than students in the other experimental treatments. These analyses lend basic support to the hypothesis that all trainees came from the same population.

The data and tests recorded in Table 10 do not, however, rule out the possibility of statistical interaction between aptitudes and the experimental conditions leading to higher classroom performance. Table 11 presents selected correlations between aptitude test scores and the two performance measures (exam scores and time within blocks). Inspection of the selected correlations in Table 11 shows that all those that are significant are of such small absolute values as to be of little use from a practical standpoint. While 13 out of 40 correlations reach conventional statistical significance levels, the largest of them is only -.27 which accounts for only a fractional amount of variance in performance. The most noteworthy result shown in Table 11 is a relatively consistent correlation of administrative aptitude with hours in blocks. Students who have higher administrative aptitudes have a slight edge in examination scores and use

Table 10

Aptitudes of Trainees in Different Treatment Groups

	Aptitudes									
	General		Administrative		Mechanical		Electronics		AFQT	
Condition	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Hawthorne (N = 86)	74.93	14.52	71.42	16.67	76.27	15.18	85.82	8.55	80.39	14.64
LATS (N = 56)	73.69	16.64	69.52	15.88	72.62	19.51	83.69	10.06	80.42	13.32
LRS (N = 53)	73.46	11.01	70.26	15.85	71.15	16.52	83.72	6.25	75.80	17.45
CBDS (N = 36)	78.63	15.72	78.18	15.45	71.82	18.87	85.76	7.41	79.68	13.00
F Test	N.S.		2.14*		N.S.		N.S.		N.S.	

Note: $*p < .05$

Table 11

Correlations of Aptitude Tests with Block Exam Scores and Number of Instructional Hours Per Block†

		Aptitude Tests									
		General		Administrative		Mechanical		Electronics		AFQT	
		Exam Scores	Instr. Hours	Exam Scores	Instr. Hours	Exam Scores	Instr. Hours	Exam Scores	Instr. Hours	Exam Scores	Instr. Hours
Block Exams	1	N.S.	N.S.	N.S.	-.18** (180)	N.S.	N.S.	N.S.	N.S.	+.16* (174)	-.17* (174)
	2	+.14* (179)	-.21** (179)	N.S.	-.27*** (179)	N.S.	N.S.	N.S.	-.24*** (179)	+.18* (173)	-.13* (173)
	3	N.S.	-.13* (175)	N.S.	-.20** (175)	N.S.	N.S.	+.15* (179)	-.14* (175)	N.S.	N.S.
	4	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.

Note: *p < .05
**p < .01
***p < .001
†N's in parentheses

slightly less time for preparation. This pattern holds up over three of the four blocks. Again, however, the magnitudes of the correlations are so low as not to have immediate application.

The low predictive validities shown in Table 11 can be further understood by examination of the results presented in Table 12. Here the block exam scores and the hours within blocks are intercorrelated. The upper left hand triangle of Table 12 shows the intercorrelations of the block exam scores. The highest of these is .64. Intercorrelations of the hours spent preparing for exams are shown in the lower right hand triangle. The highest of these is .76. In each case, the intercorrelations are low enough to make it unlikely that single aptitude measures could show substantial relationships across all blocks. The lower left hand square section of the table shows the intercorrelations between scores and hours of preparation. These correlations, the median of which is .23, indicate generally that students who take fewer hours to prepare for the exams also score somewhat higher on exams (it is important to recall here that correlation indicates nothing about causation). From these analyses it is apparent that aptitude scores are not related to course performance to any substantial degree.

Table 13 presents intercorrelations of aptitude scores with trainee attitudes and instructor assessments. Performance in the various blocks is also related to trainee aptitudes and instructor assessments. Inspection of the aptitude score section of Table 13 reveals that the various scores are not importantly related to trainee attitudes, but that they do have substantial correlations (from the second assessment onward) with instructor assessments of student effectiveness. The pattern of nonsignificant correlations with aptitudes for the first assessment followed by significant correlations on subsequent administrations strongly suggest the presence of bias in the instructors' ratings. Students with higher aptitude scores tend to get higher ratings of effectiveness, even though there are no important correlations between aptitude and performance in the course. Thus, with reference to Table 9, it is likely that the stability of the instructors' assessments over the four administrations is due in part to bias introduced by the instructor's knowledge of the aptitude scores.

Inspection of the remainder of Table 13 shows no important correlations between course performance and attitudes or instructors' assessments. While a few correlations reach statistical significance, none of them are sufficiently high to warrant practical interpretation.

Administrative Burden on Instructors

Throughout the course of the field study the opinions of technical instructors were sought. In the early stages those opinions were used to assist in the design of the experimental treatments. In later stages the opinions were used to assess the impact of the treatments. Structured

Table 12

Intercorrelations Among Block Exam Scores and Instructional Hours Per Block †

		Exam Scores Block				Instructional Hours Block			
		1	2	3	4	1	2	3	4
Exam Scores	Block 1								
	Block 2	.43 (202)							
	Block 3	.43 (199)	.41 (199)						
	Block 4	.64 (196)	.55 (196)	.52 (195)					
Hours Preparing for Exam	Block 1	-.23 (203)	-.23 (202)	-.25 (199)	-.18** (196)				
	Block 2	.01 (202)	-.22 (202)	-.21 (199)	-.03 (196)	.76 (202)			
	Block 3	-.65 (198)	-.30 (198)	-.09 (197)	-.43 (194)	.47 (198)	.34 (198)		
	Block 4	-.54 (195)	-.55 (195)	-.29 (194)	-.30 (194)	.37 (195)	.34 (195)	.56 (193)	

Note: **$p < .01$, all others $p < .001$
†N's in parentheses

Table 13

Correlations of Scores on Airmen Attitudes Toward Training and Instructor Assessment of Student Effectiveness Questionnaires with Aptitude Scores, Exam Scores and Number of Instructional Hours Per Block

		Trainee Attitudes				**Instructor's Assessment of Student Effectiveness**			
		Administration of Questionnaires							
		1	2	3	4	1	2	3	4
Aptitude Scores	General	.11	.13*	.07	-.04	-.05	.13*	.31***	.21***
	Admin.	.06	.04	.09	-.02	-.04	.13*	.18*	.16
	Mech.	.03	-.01	.03	-.04	.08	.28***	.32***	.27***
	Electr.	.08	.13*	.10	-.03	-.03	.28***	.31***	.23***
	AFQT	-.08	-.02	-.05	-.17*	.06	.25***	.26***	.28***
Exam Scores	Block 1	.08	.08	.09	.06	-.01	-.07	.00	.01
	Block 2	-.02	.10	.02	.03	.00	.13*	.14	.09
	Block 3	-.02	.02	.07	.14*	-.08	-.07	.02	.06
	Block 4	.01	.05	.04	.08	.04	.00	.01	.06
Hours Preparing for Exams	Block 1	-.06	-.02	.03	.04	.01	.01	-.08	-.04
	Block 2	-.02	-.04	.03	.06	.08	-.08	-.22***	-.10
	Block 3	-.13*	-.16*	-.11	-.10	-.01	-.06	-.18**	-.17*
	Block 4	-.04	-.04	-.03	-.03	.00	.02	-.12	-.15

Note: $^{*}p < .05$
$^{**}p < .01$
$^{***}p < .001$

interviews, informal conversations and questionnaires were used as means of gathering these data. The Instructor Opinions About Training questionnaire (shown in Appendix G) was administered prior to the beginning of the field experiment and again at the end to instructors who were still associated with the course (a great deal of personnel turnover, by way of both reassignment and retirement, occurred during the course of the study, and thus, follow up data was based on responses of only 11 of the original 25 instructors). Two items were explicitly included in the questionnaire to get opinions about administrative burdens. Item 4, "The routine paper work I have to do is excessive," and Item 7, "I do too much administrative work and not enough instruction" showed no change as a result of the imposition of the experimental systems. That is, the instructors reported no increased administrative burden as a consequence of having participated in the experiment. Especially given the large amounts of time needed in the CBDS and LRS treatments, as well as in filling out Instructor Assessments of Student Effectiveness weekly, this finding supports the idea that the experimental systems were sufficiently useful additions to the regular curriculum so that their "costs" in terms of time and administrative burden were viewed as negligible.

Interviews with the instructors resulted in much the same picture as examination of the questionnaires. Instructors who participated in the study felt that the effort was worthwhile, and that some particular elements of the systems (such as the peer nomination elements of the Leadership Recognition System, and the acquaintanceship exercise and the psychological contract exeecise from the CBDS) were valuable additions to their classes.

Cost Effectiveness

There is no relative cost advantage to adopting any of the experimental systems as additions to or replacements for elements in current technical training curricula. On the other hand, there appears to be no cost disadvantage either. Instructors found the peer nominations of the Leadership Recognition System to be useful additions to their courses. The acquaintanceship and psychological contract exercises were also viewed as useful by instructors and in addition, resulted in small, significant improvements in trainee attitudes toward their peers. These exercises could be modified, used in further research, and adopted throughout all technical training schools. Cost of their adoption would be minimal and they would yield some small benefits.

On the whole, the experimental systems failed to yield any benefits in terms of improved examination scores or time savings in the curriculum. They did not result in lower washback rates. They produced no marked improvements in overall attitudes. Because of this general lack of impact, computation of relative costs and benefits will be foregone. The systems had neither a positive nor a negative effect on instructional costs. It is hoped that this conclusion will be interpreted without prejudice to other systems for managing social incentives. The token economy approach originally proposed for this research, and outlined in Chapter 1, was not implemented. Such an approach, having specific contingencies between behavior and reinforcers, may have altogether different effects on performance and attitudes.

Chapter 4

Conclusions

This chapter presents a discussion of the findings of the field experiment and interprets those findings in the larger context of the overall contract for studying the management of social incentives in Air Force technical training. Finally, the implications of this work for future research and practice in the Air Force will be presented.

The Field Experiment

Four social incentive instructional systems, each designed to have impacts on various facets of classroom social leadership, were tested in a field experiment. On a priori grounds, two of the four systems (the Baseline Hawthorne group and the Leadership Attitude Training System) were expected to have minimal effects on classroom examination performance and trainee attitudes. The other two systems (the Leadership Recognition System and the Classroom Behavior Development System) were expected to have larger impacts.

The general finding of the field experiment was that none of the classroom social leadership systems had any important positive or negative effect on block examination scores and time spent preparing for examinations, on trainee attitudes or on instructors' assessments of student effectiveness.

That the experimental systems had no positive effect on examination scores may have been a result of an inherent inability of these kinds of approaches to have an effect on cognitive performance. In addition, though, the lack of impact could have been due to insensitivity of the examinations and a psychometric "ceiling" effect. In future research it would be useful to have custom developed performance tests for use as dependent measures, rather than the standard course examinations.

None of the experimental systems produced a time savings in terms of students' pace through the course. On the other hand, the systems did not slow anyone down. Since the systems varied in the amount of time required from 1 hour 40 minutes (for the Baseline and LATS groups) to 8 hours 40 minutes (for the CBDS), this finding has some importance. In particular, it suggests that pace through the course is governed by normative expectations of how long it will take to master each block. It is very doubtful that elimination of the CBDS would result in a time savings of 8 hours and 40 minutes. Rather it is expected that there would be no time savings at all.

One system, the CBDS, did have a significant and lasting impact on one area of student attitudes, attitudes toward fellow trainees. This impact was most likely due to the acquaintanceship and psychological contract exercises presented on the first and second days of class. These exercises should be studied further in the technical training setting and, if supported by additional research, they should be adopted as standard features of technical training curricula. This finding represents the single important consequence of the implementation of the various classroom social leadership systems.

Analysis of the instructors' assessments of student effectiveness and aptitude scores revealed significant correlations between these two sets of data, suggesting that instructors' assessments were biased by knowledge of student aptitudes. Such biases not only introduce error into research and administration, but they also may have significant impacts on the interaction between instructor and student. Rosenthal and Jacobson's classic study, Pygmalion in the Classroom (1968), illustrated the ways in which teachers' expectations can influence the behaviors of students. In the technical training setting, instructors' knowledge of student aptitudes has been shown to be related to instructors' assessments of student effectiveness . Further research should be undertaken to determine the extent to which instructors' expectations have impacts on other aspects of technical trainee's behavior.

It must be repeated yet one more time that the results of the field experiment have no implication at all for the effectiveness of alternative systems for managing social incentives in technical training. Since none of the experimental systems involved direct contingencies between behavior and reinforcers, the general lack of impact for the experimental systems must not be interpreted as a general finding of ineffectiveness for all systems of social incentive management.

Social Incentive Management

In the context of the larger objectives of this research, a considerable amount was learned about the management of social incentives in the technical training environment. The review of the literature, summarized in Chapter 1, yielded many findings about the relative potency of various kinds of social incentives and the circumstances under which such results are observed. Of greater immediate payoff to the Air Force, the identification and scaling of social incentives, summarized in Chapter 1, presents much information which can be used in forward planning for the Advanced Instructional System, various learner centered instruction procedures, and in the administration of group-paced and self-paced courses. Incentives such as choice of assignment, promotion, 72-hour pass, reduced squardron detail and many others are all attractive. Students in a variety of training courses say they would be willing to put out great effort to obtain such outcomes. Incentives such as these show promise for serving as reinforcers where appropriate contingencies can be constructed and implemented.

The major conclusion of this entire research effort is that the management of social incentives is a particularly difficult art. While social incentives can be identified and scaled with considerable ease, manipulation and management of the same incentives requires considerably greater effort. A definite limiting condition on the results of the field experiment is that the social incentive systems were tested only in one self-paced course. It is possible that manipulations aimed at improving the quality of classroom social leadership would be effective only in a group-paced course, requiring considerable group interaction. However, because individual pacing seems to be the direction that most technical training will be taking in the years ahead, the decision was made in Phase I of this project to select a course in which student progress was self-paced. This, of course, may have reduced the salience of some of the group exercises. Since each trainee worked at his own pace, there may have been no meaningful incentive for cooperation and other social leadership effects.

Perhaps the most important question to arise from this research effort concerns trends in technical training instruction as related to social and group factors. Will designers of future instructional technologies take proper and sufficient account of social and group factors? The scaling data show high attractiveness values for various social incentives. The results of the field experiment show the influence of the acquaintanceship and psychological contract exercises on attitudes toward fellow trainees. Both these findings underline the importance of social factors. Especially since most future training will be in a self-paced mode, social factors must be given adequate attention.

References

Ayllon, T. and Azrin, N. H. *The token economy: A motivating environment for therapy and rehabilitation*. New York: Appleton-Century-Crofts, 1968.

Pritchard, R. D., Von Bergen C. J. Incentive motivation techniques evaluation in Air Force Technical Training AFHRL-TR-74-24. Lowry AFB, Colo: Technical Training Division, Air Force Human Resources Laboratory, November, 1974. (AD-A005 302)

Raben, C. S., Wood, M. T., Klimoski, R. J. and Hakel, M. D. Social reinforcement: A review of the literature. AFHRL-TR-74-9 (I), Lowry AFB, Colo Technical Training Division, Air Force Human Researces Laboratory, August, 1974. (AD-A001 118)

Roethlisberger, F. J. and Dickson, W. J. *Management and the worker*. Cambridge: Harvard University Press, 1939.

Rosen, N. Demand characteristics in a field experiment. *Journal of Applied Psychology*, 1970, 54, 163-168.

Rosenthal, R. and Jacobson, L. *Pygmalion in the classroom: Teacher expectation and pupils' intellectual development*. New York: Holt, Rinehart and Winston, 1968.

Wood, M. T., Hakel, M. D., Del Gaizo, E. R., and Klimoski, R. J. Identification and analysis of social incentives in Air Force technical training. AFHRL-TR-75-10, Lowry AFB, Colo. Technical Training Division, Air Force Human Resources Laboratory, 1975.

APPENDIX A

FOUR ALTERNATIVE SYSTEMS FOR ENHANCING SOCIAL REINFORCEMENT

The field experiment investigated only a limited number of possible ways of managing social incentives. Many alternate systems are possible, and, in fact, four other systems were originally constructed for the field test. Due to last minute changes in priorities and resources, arising from operational considerations at the research site, the social contingency systems described below were dropped in favor of the classroom social leadership systems. The untested systems are outlined here to illustrate alternate ways of managing social incentives, and to provide a contrasting background for the procedures and findings presented in the body of this report.

Social Contingency Systems

The development of social contingency systems emanating from the research on characteristics of incentives involved two basic components, delineating the system of incentive operation, and selecting the incentives to be included in the system.

Four incentive systems were developed based on two critical variables which may affect the utility of incentives: the source of their administration and the basis on which they are awarded. The four incentive systems can be described as follows.

System 1. Incentives are administered by the instructor based on the individual trainee's performance.

System 2. Incentives are administered by the instructor and the class as a group based on the individual's performance.

System 3. Incentives are administered by the instructor to the individual based on the performance of the class as a group.

System 4. Incentives are administered by the instructor and the class based on the performance of the class.

The design variables incorporated in these systems, i.e., incentive administration and behavioral basis, were derived from previous evidence suggesting differential impacts. The review of the literature provided tentative indications that basing rewards on group performance may be efficacious in view of the intervening processes of cohesiveness development and helping others reach performance standards (Raben et al., 1974). That review, along with data from four Air Force technical training bases, also suggested that trainees may respond differentially to incentives *administered by their instructor (leader) and classmates (peer group).*

The distinction between individual- and group-performance-based reinforcement is relatively straightforward. Rewards are administered based on the individual's own performance, in terms of either an absolute cut-off score or exceeding an individually predicted target score (based, e.g., on his aptitude test scores), or the individual is rewarded based on the overall performance of his class. The proposed systems included the absolute cut-off criterion and a minimal failure-rate on the part of the class. Thus, for example, a trainee could be rewarded in proportion to the number of points he scored above 70 on a block (performance) exam, so long as no more than ten percent of his classmates failed the test. To this point, the major criterion behavior is, then, objective performance, as measured by standardized examinations.

The issue of administrative source generated the inclusion of multiple behavior bases for reinforcement. In addition to objective black-exam performance, the trainee could be rewarded for his leadership performance with a system of determing "leadership points" to supplement (but not replace) "performance points." The varying source of administration is operationalized in terms of whether the instructor alone, or the instructor in concert with classmates allocates the leadership points. In their combination, a ratio of 2:1 is preserved between performance points and leadership points, so that the former behavior base is weighted twice as heavily in determining rewards. The range of possible performance points is 0-30 (based on test scores of 70-100). Previous data from electronics courses indicated a mean test score of 90. This would represent a mean accumulation of 20 performance points. Thus, to preserve the desired 2:1 ratio, it would be possible to establish a mean of 10 leadership points for a trainee to earn. If class size were, for example, 10, then each student and the instructor would distribute 100 leadership points among class members in amounts ranging from 0-15 points for any student. The average allocation a trainee receives from class members is then added to his instructor-allocated points. The average of these two scores (instructor and class) provides the final number of leadership points for trainees operating in the instructor and class conditions (systems 2 and 4). In other systems, only the instructor assigns leadership points. Finally, if we assume the experimental systems will cover the first four blocks of the course, the total number of points an individual could earn would be 180: 30 x 4 = 120 performance points, and 15 x 4 = 60 leadership points.

Since, unlike the performance points, leadership point determinations involve subjective judgments, a study and experimental definition of leadership behavior was accomplished as part of the Phase I research activities. The intent was to provide trainees and instructors with behavior-observation reasons for assigning leadership status to the trainees. The determination of relevant leadership behaviors capitalized on the analysis of social incentives in training and the generation, by trainees and instructors, of critical incidents of leadership behavior.

Six social incentives, which had previously been considered as potential rewards, were designated as social leadership bases for the determination of rewards and studied with the sample of Lowry electronics trainees. Trainees indicated on 5-point scales (never-always) the frequency with which these behaviors presently occur, and ideally should occur, in their training program. The behaviors were also studied with the variation of the respondent-trainee as an initiator or recipient of the leadership act.

Results of this analysis are presented in Table A-1. The mean responses of trainees are indicative of several general conclusions. (1) Social leadership behaviors are currently operative in the training setting, some (treating people as individuals and showing liking and acceptance) with substantial regularity. (2) Trainees believe that social leadership behaviors should occur more frequently than they currently do; this result was consistent across the six behaviors. (3) Trainees believe that they should (and do) initiate leadership acts to a greater extent than they receive the act from someone else. It should be noted that the exercise of influence cannot be interpreted in the usual sense of the respondent as a target, since the questionnaire items were ambiguous or to who actually influenced class activities.

The derivation and collection of critical leadership incidents supplemented these categorical descriptions of classes of social behaviors and provided instructors and trainees with exemplary objective markers for distributing leadership points, assuming, for the present, equal importance of the behavior classes in defining social leadership.

Incentives for technical and leadership performance were selected on the basis of their characteristics, as determined in their identification and analysis, and their manipulability within the context of the proposed systems. These issues determined the pricing of incentives in terms of the performance/leadership points necessary to acquire them as rewards: Considerations of incentive attractiveness, feasibility, frequency of realistic receipt, and cost of implementation led to the proposed inclusion of 18 incentives to be available in the systems' catalogs or menus. The proposed incentives and their values are presented in Table A-2. The incentives are listed in the order of their attractiveness as assessed by the dollar method in the study of electronics trainees at Lowry AFB. Rating-method attractiveness values are also presented and show a close ordinal correspondence to the dollar values. The incentives are presented in five levels of value, as indicated by the spacing between incentive clusters in the table. Within each level, the incentives have the same behavioral-points value indexing their "price" or the number of exam/leadership points which must be accumulated to receive those incentives. The price was generated by multiplying the median, within-level, dollar value of the incentives by two. The incentive prices are thus tied directly to their psychological reward value to the trainee and preserve several desirable elements of the incentive systems. First, the prices of the lower-level incentives guarantee that virtually every trainee can be rewarded. Even without leadership points,

Table A-1

Trainee Perceptions of the Degree of Present and Ideal Occurrence of Leadership Behaviors, with the Trainee as Agent and Target of the Leadership Behavior

	Trainee as Agent				Trainee as Target			
	Present		Ideal		Present		Ideal	
Behavior	M	sd	M	sd	M	sd	M	sd
Give encouragement	2.95	0.75	3.65	0.77	2.70	0.87	3.43	0.67
Treat as an individual	4.16	0.76	4.56	0.64	3.54	1.01	4.44	0.71
Praise achievements	3.11	0.71	3.60	0.74	2.69	0.93	3.28	0.78
Show liking, acceptance	3.65	0.67	3.84	0.77	3.43	0.70	3.54	0.71
Exercise influence	3.16	0.87	3.31	0.82	2.89	0.99	3.29	0.82
Show concern	3.34	0.73	3.69	0.79	3.01	0.83	3.34	0.81

Note: Scale runs from 1 = Never to 5 = Always

Table A-2

Incentives Proposed for Inclusion in the Social Contingency Systems

Incentive	Attractiveness		Points needed to acquire	Frequency of purchase
	Dollar	Rating		
Level I				
Choice in base assignment	52	6.7	100	once--last block
Promotion	50	6.6	100	once--last block
Level II				
Information--military	20	6.0	32	once
Information--civilian	18	5.9	32	once
72-hour pass	15	5.9	32	multiple
Extra instruction	13	5.8	32	multiple
Reduced squadron details	12	6.0	32	multiple
Level III				
Phone call	10	5.6	18	multiple
Field trip	9	5.6	18	once--last block
24-hour pass	9	5.5	18	multiple
Level IV				
Letter of merit	7	5.0	12	once
Certificate	6	5.4	12	once--last block
Uniform choice	6	5.1	12	multiple
Meals choice	6	5.1	12	multiple
Strengths/weaknesses	5	5.2	12	multiple
Level V				
Social event	4	4.8	8	once--last block
News in home town paper	4	4.8	8	multiple
Honor identity passed on	3	5.0	8	once--last block

scoring 78 on an exam (or averaging 72 across 4 tests) would qualify one for a reward. Second, the top-level incentives are very costly in terms of both their system price and the implementation cost for the Air Force, and very few trainees are likely to earn them. Moreover, trainees must consistently maintain high performance/leadership levels and must forego some lower-level incentives in the early training blocks in order to receive the costly ones. Scoring 90 on all four block exams, one would have to average five leadership points per assessment to qualify, if he purchased no other incentives along the way. With perfect (100) exam scores and 10 leadership points per block, if the trainee opted for one of these top incentives, he could purchase only one other second-level, 3 third-level, or 5 second-level incentives. In no case could a trainee obtain both a promotion and choice in his base assignment. Third, half of the incentives could be purchased only once in the system, and these "one-shot" rewards occur at each price level. The remaining incentives in levels 2-5 could be acquired regularly throughout the time period of the system. Receipt of six of the nine one-shot incentives is also reserved for the last training block due to cost or administrative constraints. Fourth, the proposed systems incorporate incentives with motivational implications for recognition, time-off and individual control, and social activities.

The basic elements of the incentive instructional systems would involve examining performance and attitudes over four blocks or time periods of the fundamental electronics course for trainees operating in one of the four incentive systems. Incentives would be used to reinforce both technical skill acquisition and the development of leadership skills in training. Thus, the social aspect of the systems is included both in the incentives and their behavioral contingencies. The major emphasis is on social leadership behavior development, since such social behaviors as "treating others as individuals" are difficult to conceptualize as rewards. Rather, technical and social competence are viewed as goals of an incentive system. The criterion measures for evaluation would include block exam scores, performance ratings by instructors, and measures of trainees' attitudes.

APPENDIX B

Questionnaires Used as Dependent Measures in the Field Experiment--the Airmen Attitudes Toward Training and the Instructor Assessment of Student's Effectiveness

Airmen Attitudes Toward Training

Please indicate how you currently feel about several aspects of your technical training. Below you will find several items that describe different components of your training experience. Indicate your present reaction to each component by checking, or placing an 'X', in one of the five spaces below the item; this will tell us how satisfied you are with each part.

1. Your Instructor in this course - Taking into account how effective a teacher he is and how he gets along with his students.

________	________	________	________	________
Very satisfied	Somewhat satisfied	Neutral	Somewhat dissatisfied	Very dissatisfied

2. The System of Rewards associated with being an effective student in this training program - Taking into account what rewards are available and what one must do to get them.

________	________	________	________	________
Very satisfied	Somewhat satisfied	Neutral	Somewhat dissatisfied	Very dissatisfied

3. Your Fellow Trainees in this training course - Taking into account how well other students make this class profitable for you, how well students get along with one another, and the general togetherness of your class as a group.

________	________	________	________	________
Very satisfied	Somewhat satisfied	Neutral	Somewhat dissatisfied	Very dissatisfied

4. The Content of this course - Taking into account the interest, importance, and challenge of the material required of you in the course.

________	________	________	________	________
Very satisfied	Somewhat satisfied	Neutral	Somewhat dissatisfied	Very dissatisfied

5. Your own Progress in the course - Taking into account how well you are doing in terms of performance and how quickly you are mastering the material.

________	________	________	________	________
Very satisfied	Somewhat satisfied	Neutral	Somewhat dissatisfied	Very dissatisfied

6. Your Overall satisfaction with this course - Taking into account generally all factors which are responsible for how satisfied you are.

________	________	________	________	________
Very satisfied	Somewhat satisfied	Neutral	Somewhat dissatisfied	Very dissatisfied

7. The United States Air Force - Thinking generally of the system as it is operating and affecting your life.

Very satisfied	Somewhat satisfied	Neutral	Somewhat dissatisfied	Very dissatisfied

8. Your own Personal Development during the training you have had so far - Taking into account the confidence you have in your abilities to go out and perform effectively in your Air Force job.

Very satisfied	Somewhat satisfied	Neutral	Somewhat dissatisfied	Very dissatisfied

There are two more questions that ask for your opinions but without saying how satisfied you are. Read these two questions and, as before, check one of the 5 spaces for each.

9. How much effort are you putting into this training course; how hard have you honestly tried, regardless of how well you are doing grade-wise?

Very great deal of effort; I tried as hard as I could	Quite a bit of effort; I tried pretty hard	About average effort; I usually tried	Slight amount of effort; not very often or very much	Very little effort; I didn't really try at all

10. Finally, as of how you feel today, would you recommend to a new airman who was your friend that he get involved in this technical training program?

Definitely yes	Probably yes	Don't know if I would or not	Probably not	Definitely not

Instructor Assessment of Students' Effectiveness

Student Being Described: ______________________________

Please consider this student relative to other trainees you have taught in this course and indicate how effectively he is performing by checking the appropriate space on the scale below each effectiveness item.

1. Showing initiative in the class

Very poor compared to other trainees	Worse than other trainees	Same as other trainees	Better than other trainees	Very good compared to other trainees

2. Knowledge of substantive material taught in the course

Very poor compared to other trainees	Worse than other trainees	Same as other trainees	Better than other trainees	Very good compared to other trainees

3. Communication skills

Very poor compared to other trainees	Worse than other trainees	Same as other trainees	Better than other trainees	Very good compared to other trainees

4. Getting along with classmates

Very poor compared to other trainees	Worse than other trainees	Same as other trainees	Better than other trainees	Very good compared to other trainees

5. Overall performance in the course

Very poor compared to other trainees	Worse than other trainees	Same as other trainees	Better than other trainees	Very good compared to other trainees

6. Exerting effort and applying himself to the training task

Very poor compared to other trainees	Worse than other trainees	Same as other trainees	Better than other trainees	Very good compared to other trainees

APPENDIX C

Materials for the Leadership Attitude Training System

Leadership Orientation Booklet

I. What the Leadership Orientation Booklet is:

The Leadership Orientation Booklet is a brief description of the nature and importance of leadership in the training classroom and in the Air Force more generally. This booklet will be read by incoming trainees in the Electronics Fundamentals Course. The material in the booklet is designed to: (a) stress the importance of developing leadership potential as the airman begins his technical career; (b) communicate, at the outset of training, what is expected of airmen in terms of leadership behaviors; and (c) to communicate these expectations in a novel, interesting way. The expected behaviors and leadership principles have been derived from discussions with samples of trainees and instructors and from previous writings on leadership. They are presented here in a manner which retains the basic principles but frames them in a straightforward, often humorous, orientation. This has been done so that the ideas will be understandable and inspiring for trainees regardless of their background or aptitudes. The shortness and simplicity of the booklet should also increase the trainees' retention of the basic ideas over time.

II. How the Leadership Orientation Booklet is to be used:

Your role in the use of the Leadership Orientation Booklet is quite simple. At the very beginning of your first class session following the formal orientation, distribute the booklets to class members. Just use the cover title page to tell them what the booklet is (an orientation toward effective leadership in training) and where it's from (the Human Resources Laboratory Classroom Leadership Project). Then give them 15 minutes to read through the booklet. When they have finished, indicate that they should keep the booklet and refer to it whenever they wish. Then move into your regular electronics training activities.

> Questions on the use of the Leadership Orientation Booklet should be addressed to 2nd Lt. D. Shipman or 2nd Lt. R. Noblitt at the Human Resources Laboratory, LAFB, Phone 4385. The Leadership Orientation Booklet is being evaluated for potential adoption in all appropriate technical training courses, and your opinions on its strengths and weaknesses will be sought at the conclusion of this field tryout.

LEADERSHIP ORIENTATION BOOKLET

Prepared for use in
Electronics Fundamentals
Lowry Technical Training Center

under the auspices of
Classroom Leadership Project
Human Resources Laboratory

Leadership Attitudes in Technical Training

Lowry Technical Training Center

Electronics Fundamentals

Welcome to your first technical training class. As you know, a basic purpose of your being here is to learn basic technical skills that will be helpful to you in your Air Force job and in pursuing career goals later in life. Another purpose, that should be equally stressed, and recognized in the classroom and elsewhere on base, is to further the development of your leadership potential.

What is good leadership? How can you be a leader of men? Why is leadership important to you and your country? In this booklet we shall give you a general picture of leadership and your role. Read this short booklet now as you begin your training venture. Refer to it again whenever you like. It is designed for your own benefit to help get you off on the right track. It is not an order, it is not a test; nobody is going to check to see if you've read or are following it. After all, who is going to profit from your being a leader--you are; and so will your fellow airmen!

We hope the next few pages are helpful to you. Good luck!

"Leadership is silly kid stuff"

WRONG...

Although some people may see it this way at first, leadership is a serious matter with important consequences. It does not mean getting a step ahead of the other guy and getting laughed or sneered at for your efforts. The quality of leadership can determine the fate of a nation as well as that of the average citizen. History has recorded the successes of many different leaders in the military, political government, and civic welfare. While you may not become president, leadership also affects you here and now. How you deal with other people and how they treat you will have a large impact on your attitude and how well you do your job. There are some things you can do alone. But somewhere along the line, teamwork will make or break any project. Teamwork involves how you lead and how you respond to the leadership of others. Only through working together with good leadership and everybody pulling his weight, can a group have what you might call "esprit de corps," a feeling of togetherness, common will, spirit, and pride in what you're doing. Knowing you can lead will also make your own individual life more pleasant as you gain the respect and admiration of others.

"Great leaders are born leaders...

You either got it or you don't"

WRONG....

Leadership comes through learning and experience. You are not born knowing the right thing to do, at the right time, and in the right place. And right now, in the midst of other young men in the "same shoes" as you, is a good time to become a leader. Being diligent and constantly putting out your top effort in your work will give you a base to work on. Not only do you have to be a good guy, you have to know what you're doing. To be looked up to for support, praise, and help, you have to develop the expertness in your field that will make your help and support valuable to the other guy.

Leadership in the past may not be relevant to leadership here. So if you weren't class valedictorian, class president, or captain of your football team, don't let that determine your leadership in the Air Force. You're in a new phase of the ball game of life and you set the game plan and carry it out.

Remember... "Action, not words, makes a man."

"Being a leader means being top dog"

THIS IS ALSO WRONG...

Everyone can be a leader. You are not competing with other men to become the leader. Rather, leadership is to be shared, and this requires cooperation. Different men can lead at different times and on different tasks. Also, for you to be a good leader, people have to follow you. In setting a positive example for others, it helps to be honest, forthright, and courteous. Leaders of the past have shown some form of courage. The electronics lab is not a battlefield where you can demonstrate courage under fire. However, you can be courageous by sticking to your principles but being open-minded enough to understand and respect other peoples' points of view. Leadership can be shown in changing yourself as well as by trying to change others. If you look at leadership this way, it is possible for every member of your class to be an effective leader and for all of you to learn from each other.

Remember... "He may not score
And yet he helps to win--
Who makes the hit
That brings the runner in."

"Do unto others as you would have them do unto you"

FINALLY, THIS IS RIGHT; IN FACT, THAT'S WHAT LEADERSHIP IS ALL ABOUT.

The leader who follows the Golden Rule respects others and gains their mutual respect and trust. Leadership always involves you with other people; here that includes your classmates, instructors, and others you work with from day to day. They have needs and desires just as you do. The mark of the good leader is to make all of them, including yourself, happy and productive. This means relating to other human beings as you would like them to relate to you.

Here are some examples of human relations leadership in the classroom that you may try to encourage and do yourself.

* * *

- Show support of other people's behaviors and they will support you.
- Show concern and respect for the needs and feelings of others, and they will show respect for you.
- Treat other people like individuals and they will treat you like the individual human being you are.
- Help others solve problems and they in turn will help you.
- Share information with others and they will give knowledge to you.

- Praise others' accomplishments and they will encourage you.
- Initiate friendships and you will become a friend.

* * *

When this kind of leadership takes place in a classroom, everyone there contributes and benefits. This makes the training course a smoother, more pleasing experience. The Golden Rule of Leadership also prepares you for working with other groups of people when you leave Lowry. The Air Force trains men, not just mechanics or technicians. The concept of the Whole Man - competent, energetic, inquisitive, challenging, and leading with the right attitude - makes the system go. But leadership cannot be taught from a manual like technical material can. You have to develop yourself, with experience and guidance from others, into a just, dynamic, and effective leader.

It's all up to you...

APPENDIX D

Materials for the Leadership Recognition System

LEADERSHIP RECOGNITION SYSTEM

INSTRUCTOR'S MANUAL

Prepared for use in
Electronics Fundamentals
Lowry Technical Training Center

under the auspices of
Classroom Leadership Project
Human Resources Laboratory

Contents

Purposes of the Leadership Recognition System. 1

Sequence of activities. 2

Guide for Briefing Trainees about LRS. 4

Using the Classroom Leadership Recognition Form. 8

Classroom Leadership Recognition Form. 9

Recognition Summary Record. 10

Guide for Coaching Trainees on Leadership Standing and Development. 11

Appendix: Trainee's Manual

Purposes of the Leadership Recognition System

The Leadership Recognition System has been devised to:

- Recognize effective leadership in the technical training classroom.
- Aid the development of trainee's leadership skills.
- Contribute to the growth of the whole man, the effective airman.

Sequence of Activities

1. Briefing of instructors and other course personnel.
2. First day of class: Briefing of trainees--distributing Trainee's LRS Manual, defining classroom leadership, discussing the purposes of LRS, reviewing the Classroom Leadership Recognition Form, and reporting leadership standing, describing observed behaviors, and planning leadership development.
3. Ninth day of class: Distribute copies of the Classroom Leadership Recognition Form. Each trainee must complete at least 3 nominations as he wishes (except he may not nominate himself). The completed nomination forms are collected and reviewed by the instructor. The number of nominations each trainee receives is reported on the Recognition Summary Record.
4. Tenth day of class: Leadership Standing and Development discussions are held individually with each trainee. The Classroom Leadership Recognition Forms are distributed to trainees receiving nominations, and individual coaching sessions are held.
5. Nineteenth day of class (same as ninth day): Distribute copies of the Classroom Leadership Recognition Form. Each trainee must complete at least 3 nominations, and may make as many nominations as he wishes (except he may not nominate himself). The completed nomination forms are collected and reviewed by the instructor. The number of nominations each trainee receives is reported on the Recognition Summary Record.

6. Twentieth day of class (same as tenth day): Leadership Standing and Development discussions are held individually with each trainee. The Classroom Leadership Recognition Forms are distributed to trainees receiving nominations, and individual coaching sessions are held.
7. Additional repetitions of the cycle of collecting nominations and holding coaching sessions can be done at the discretion of each instructor. LRS is intended to have a major impact early in the course, but may be extended if desired.

Guide for Briefing Trainees about LRS

This briefing should be held as soon as possible after the trainee enters his classroom for the first time. Ideally, all trainees in the same classroom will receive their orientation, receive this briefing, and begin their course assignments together as a group at the same time. Trainees beginning the course at other times should be given individual briefings.

Introduce the Leadership Recognition System in the following way:

1. "In addition to the particular job skills you will learn during technical training, we will devote some time to leadership. Specifically, during the next several weeks we will participate in the Leadership Recognition System as a means of identifying effective leadership in this classroom. The purposes of the Leadership Recognition System are to:

    1. recognize effective leadershp in the technical training classroom,
    2. aid in the development of leadership skills, and
    3. contribute to the growth of the whole man--to your growth as an effective airman.

    This booklet is your manual for the Leadership Recognition System. Read it. When everyone has finished, we will have a brief discussion covering effective leadership in the classroom, use of the Classroom Leadership Recognition Forms, and any questions you have."

2. Give each trainee a copy of "Leadership Recognition System, Trainee's Manual." Instruct each trainee to read the booklet immediately.

3. After everyone has finished reading the booklet:

   --discuss the definition and examples of effective classroom leadership;

   --review the Classroom Leadership Recognition Form, drawing especial attention to the need to report a specific incident to justify nominations and the other procedures related to making nominations;

   --announce that the first round of nominations will take place in about two weeks;

   --point out that each trainee must nominate at least three of his classmates, and that he may nominate other, additional effective leaders in his class;

   --suggest that each trainee be especially alert for instances of leadership, and that he jot down a note as a remainder for when the nominations are made;

   --outline the procedures for the Leadership Standing and Development discussions like this: "After the nominations have been made and collected, I'll sort them out and review each one. The next day I'll meet separately with each of you to let you know your leadership standing and to discuss your leadership in the classroom. The idea is to help you find out about your leadership skills and to develop them."

   --ask: "What questions do you have?"

4. Answer any questions that arise as well as you can.

   The following information may be helpful:

   o The Classroom Leadership Recognition Form is completed by trainees only; the instructor makes no nominations.

   o The instructor serves as a coach, helping trainees to develop their leadership skills, especially trainees who receive few (or no) nominations.

- Recognition of leadership has no direct impact on course grades. Rather, recognition is given in addition to the regular classroom performance information.

- Nominations on the Classroom Leadership Recognition Form should cover leadership observed during the training day only. While leadership in the squadron is highly desirable, this system is intended to recognize leadership in the classroom.

- Nominations will be made on the 9th and 19th days of class. Recognition of leadership standing and leadership development discussions will be held on the 10th and 20th class days.

- No public posting of leadership recognition will be made. The emphasis here is on recognizing (and developing) the leadership of all trainees, not just the top performers.

- The instructor will keep a record of the nominations to assist in coaching trainees and to assist in evaluating the LRS.

- The Leadership Recognition System has been devised to achieve the purposes announced in the Trainee's Manual: Recognize effective classroom leadership; aid in developing leadership skills; and contribute to the growth of the whole man, the effective airman.

- The LRS is being implemented in this course and evaluated prior to adoption in all appropriate technical training courses.

- Trainees must nominate at least 3 classmates for recognition each time the Classroom Leadership Recognition Form is used. Enough copies of the form should be provided to each trainee so that he could nominate every member of his class (except himself).

- Self-nominations for leadership recognition are not permitted. Leadership is effective if others respond to it, and this system tries to reflect the responses of others.

5. When all questions have been discussed, conclude the briefing stating the hope that this system will lead to improved skills and more positive leadership in the classroom, and go on to the next activity.

Using the Classroom Leadership Recognition Form

The Classroom Leadership Recognition Forms should be distributed to trainees at some convenient time on the 9th and 19th days of training.

Each trainee should be given enough copies of the form so that he could nominate every other member of his class if each of them deserves recognition. Thus, if you have 8 trainees in your classroom, you should give each trainee 7 copies of the form.

Trainees must nominate at least 3 fellow trainees on the Classroom Leadership Recognition Form each time it is used. This requirement holds even if it is objected that only one person (or no one) was an effective leader, or it is difficult to think of what the person did. If a trainee still objects, point out that the purpose of LRS is to help him learn to identify leadership behavior, and ask him to keep trying.

A justification must be written for each nomination, even if it is brief. Each trainee should use only one form per nomination, and should not be permitted to nominate any person twice or more on the same day.

A trainee may not nominate himself.

When collecting nominations, check to see that the trainee has nominated at least 3 different people and that he has not nominated himself. Record the number of nominations he makes on the Recognition Summary Record.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your electronics fundamentals class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

____

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

____

____

____

____

____

____

____

____

____

____

RECOGNITION SUMMARY RECORD

Leadership Recognition System
Electronics Fundamentals
Lowry Technical Training Center

Instructor________________________________ Shift__________

Date of trainee's briefing____________________

	Date of 1st Round_________			Date of 2nd Round__________		
Trainee	Number of Nominations Made[1]	Received[2]	Discussion Held? [3]	Number of Nominations Made	Received	Discussion Held?

[1] Each trainee must nominate at least 3 of his classmates, even if he feels that none are really effective leaders. In collecting the Classroom Leadership Recognition Forms, record the number of nominations each trainee makes.

[2] Record the number of nominations each trainee received.

[3] Discussions must be held with every student regardless of the number of nominations he receives.

Guide for Coaching Trainees on Leadership Standing and Development

The most significant activity in the Leadership Recognition System is the discussion you will have with each trainee concerning his leadership standing and development of his leadership skill. This section presents suggestions for conducting the discussions.

What the trainee expects

Trainees expect to have a brief, confidential discussion with you on the day following collection of the Classroom Leadership Recognition Forms. They expect to find out how many nominations they have received. They've been told they can read and keep the nominations. Each trainee knows that the nomination forms (or lack of them) will help him to learn about what behaviors the people in his classroom respect as effective leadership. You will probably want to comment on any themes or consistencies that show up in the nominations, and also on how closely the reported behaviors fit the definition of classroom leadership (do the descriptions cover all aspects of the definition?). Give the trainee a chance to comment on the incidents reported on the nominations, or to describe what he has done that he thinks is leadership (even though others may not have recognized it). Finally, find out what the trainee would like to do about his leadership in the classroom, and get him to set clear, specific goals relating to ways he wants to improve his leadership performance.

The trainee's manual for LRS emphasizes self-development, not development imposed or coerced by the instructor. The trainee expects you to be a coach, to help him. Thus, you will have to refrain from telling him what to do, and instead, ask him what he wants to do and help him to discover how to do it.

Preparing for the discussion

After collecting and checking off the nominations that each trainee makes, you can start preparing for the next day's discussions. Record the number of nominations each trainee receives, and then read through the justifications for each nomination. For each trainee, jot down a few notes to guide your discussion with him. Note themes and consistencies that show up in the incidents, and check to see how many aspects of the definition of leadership are covered in the incidents.

Arrange for a place to hold the discussions. Since the trainee expects to discuss his skills with you confidentially, a private meeting place outside the classroom is needed. The best arrangement is for you and the trainee to be seated side by side at a table in a room where there will be no interruptions. Since these discussions will be quite brief (10 to 20 minutes), the space is not needed for too long a time.

Incidentally, your absence from the classroom during these discussions will be a nice test of the classroom leadership of your trainees.

Once you've gotten ready to talk with every trainee, decide on the order you will see them. Avoid talking with the top performers first or last. The same goes for the low performers. And make sure that you can talk to all your trainees during the same day--a delay or postponement can be very threatening.

Holding the discussion

Once the trainee and you have been seated, tell him how many nominations he has received. If you wish, you might also comment on his standing relative to other trainees (be consistent--either tell all trainees their relative standing, or none of them).

Next, give the trainee his nominations, and allow time for him to read through them. When he has finished reading, add any comments you have about consistencies or themes, and how well his behavior fits the definition of classroom leadership.

It is best to refrain from interjecting your own observations on the trainee's leadership, or your own philosophy of leadership. Under some circumstances, though, you may need to add your own commentary. The trouble is that "preaching" can get in the way of your role as a coach and helper. The focus should be on the trainee's actual behavior and the desired leadership behavior.

Next, give the trainee a chance to reflect on the nominations he has received. Praise his efforts when it is warranted. Inquire about what led up to the incidents reported on the recognition forms.

Take time to ask how well the nomination forms agree with his ideas about his own leadership behavior. This step is especially important for the trainee who receives one or no nominations, since it calls for him to report and reflect on his own view of his behavior. This then leads to an easy transition to discussing development of skills and specific improvement of goals.

Finally, ask the trainee what he would like to do about improving his classroom leadership skills ("There's always room for improvement"). Set some goals, specific ones, to be checked in the near future. Clear, specific goals lead to better performance than general exhortations to "do your best" and "try harder." It is important that the trainee select and specify the goals himself. He is likely to perform better if he feels that the goal is his own, not one that has been imposed on him. Your role is to help him make his goals clear and specific, and to make sure that there are some benchmarks for measuring attainment of the goals.

Special situations

The coaching on leadership standing and development can be the most valuable part of LRS. It will be the most challenging to you as a Technical Training Instructor. It can also present some interesting problem situations. Here are some tips on handling some special situations. You'll have to be creative and flexible in handling others that might come up.

o Some trainees may get no nominations. This means that their leadership behavior is not perceived by their peers as worthy of recognition. This fact will need to be faced. It is probably best to face it head on, fairly, without censure. "John, you got no nominations. Your classmates didn't report anything they considered important leadership behavior. How do you feel about that?" From this point, you can discuss the reasons behind his reaction ("You were surprised? Why is that?" or "It's about what you expected? Why is that?", etc.), you can discuss effective leadership behavior (Trainee: "Well, I really don't know what to do." Instructor: "What you can do is outlined in the definition of leadership..."), or follow whatever approach seems most promising. If the trainee comments that he has been trying to be a leader, ask him to describe what he has done. This should be sufficient to move the discussion to profitable lines.

- You might want to ask a trainee to make up examples of behaviors that are worthy of leadership recognition. Reviewing the leadership definition would be one approach. Reviewing the sample Classroom Leadership Recognition Forms in the Trainee's Manual would be another. Or it might be proper sometimes to ask him to recollect the incidents he reported in justifying his nominations of other trainees. The point is to make sure that the trainee understands what behaviors are viewed as effective leadership.
- Even a low ability trainee who is performing poorly on exams can exhibit leadership behaviors in the classroom and during breaks. Such instances will require your special attention.
- If both the trainee and you would see it as being useful, you might want to hold extra coaching sessions.
- The nominations might reflect popularity as much as they reflect leadership behavior. You will need to make sure that the focus is on leadership.
- If a trainee gives you the impression that he doesn't care about LRS or developing his leadership skills, you should discuss his views with him. Make sure he understands the purposes of LRS as stated in the Trainee's Manual, and emphasize the value to him of improving and using positive leadership skills, both in the Air Force and elsewhere.
- Be sure to give praise when it is deserved.

LEADERSHIP RECOGNITION SYSTEM

TRAINEE'S MANUAL

Prepared for use in
Electronics Fundamentals
Lowry Technical Training Center

under the auspices of
Classroom Leadership Project
Human Resources Laboratory

Purposes of the Leadership Recognition System

The Leadership Recognition System has been devised to:

- Recognize effective leadership in the technical training classroom.
- Aid the development of your leadership skills.
- Contribute to the growth of the whole man--to your growth as an effective airman.

This manual is provided to explain to you the goals and operations of the Leadership Recognition System (LRS). Please read it carefully, direct any questions you may have to your technical instructor. Keep this manual and refer to it whenever you wish to review the operation of the LRS.

Introduction

Leadership in the classroom involves key behaviors which contribute to maximum learning, which develop positive attitudes and morale, and which support student effort and motivation. Extensive research has identified and defined important classroom leadership behaviors. The Leadership Recognition System provides you with a clear understanding of classroom leadership and offers a system of gathering information that will let you know about your leadership behaviors in the classroom. It will help you develop your leadership skills.

Study the definition and examples of effective classroom leadership shown in this manual. Then, later in this course, you will be asked to nominate your classmates to recognize their effective leadership. Nominations will be made on the Classroom Leadership Recognition Form, and properly completed sample copies of it are shown in this manual.

Be sure to study the definition of leadership very carefully, because effective classroom leadership may be different from effective leadership in other settings.

What is Effective Leadership in the Classroom?

The good classroom leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

To make this more specific, several examples are shown next. Your goal is to watch for instances of leadership like these.

Example 1.

Airman X realized that some of the students could not keep up with the instructor - so he asked the instructor to go over the beginning of the block instead of going on to new material.

Example 2.

A group went down to the orderly room to give blood. One guy took charge and made a head count and controlled some guys from screwing around by telling them that the sooner we got finished, the more free time we would have left.

Example 3.

Airman X had to work very hard to finish his projects before the end of the time scheduled for the block. Airman Y asked if he could help explain anything.

Example 4.

After trying for a long time to uncross some of his wires, Airman X finally got his circuit to work. Airman Y told him that he was an O.K. dude for not quitting and for keeping his cool.

Example 5.

Airman X saw that Airman Y was having problems with the oscilloscope. Airman X showed him how to work it instead of criticizing him for what he did wrong. Airman X told him that he didn't mind helping because it takes time to get it together in electronics.

Example 6.

Airman X helped to increase the feeling of togetherness of the class by getting to know each and every member.

These examples illustrate some aspects of leadership in the classroom. Watch for these and more. You will be using the Classroom Leadership Recognition Form to nominate and recognize fellow classmates, and you will need to report specific examples of their leadership behavior.

The next page shows a sample of the Classroom Leadership Recognition Form. Read it carefully.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

____

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

____

____

____

____

SAMPLE

____

____

____

____

____

The next six pages show samples of good classroom leadership in a technical training course. Try to think of other examples of effective leadership as you read these samples.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

George Washington

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

I was having trouble keeping up with the material so George asked the instructor to go over the beginning of the block instead of going on to new material. Also, he helped me feel pride in what I am learning.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as [illegible] leader in the space below.

A leader I recognize is:

John Adams

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

We went down to the orderly room to give
blood, and John made a head count and
controlled some guys from screwing around
by telling us that the sooner [illegible] got
finished, the more free time we would have.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

Tom Jefferson

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

A guy was way behind in trying to finish up a block on time and Tom asked if he could help out and explain anything.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

Jim Madison

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

I worked on a circuit for a long time,
getting some wires straight, and got it
to work. Jim told me I was an O.K. dude
for not quitting and keeping my cool.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- o Show support of other people's behaviors.
- o Show concern and respect for the needs and feelings of others.
- o Treat people like individuals.
- o Help others solve problems.
- o Encourage others and praise their accomplishments.
- o Initiate friendships with others.
- o Increase the "togetherness" and pride of the class.
- o Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

John Monroe

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

A guy was having a problem with the oscilloscope and John showed him how to work it and didn't criticize him for what he did wrong. He said he didn't mind helping because it takes time to get it together in electronics.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

Andy Jackson

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

Andy helped to increase the feeling of
togetherness in our class by getting
to know each and every one of us
personally.

Using the Classroom Leadership Recognition Forms

At least twice during this course, your instructor will give you copies of the Classroom Leadership Recognition Form to fill out. You will be given enough copies of it so that, if everyone of your classmates demonstrated effective classroom leadership, you could recognize each one.

You will be asked to nominate at least 3 of your classmates, so be alert for instances of good leadership. It would be a good idea to jot down a note right away to serve as a reminder when you're asked to make nominations.

Try to be specific and complete in describing the things that the person did that made you recognize him as a leader. To report simply, "He was friendly" is not specific nor complete. Describe what actually happened that led you to say he was friendly and to nominate him.

When the nominations have been made, your instructor will collect them, sort them out and read them, and the next day will give them to the people who are recognized. Some students will receive many recognition forms, while others may receive only 1 or 2 (or none). You may get none; that is, no one felt you behaved as a leader (regardless of how effective you feel you are). Or it's possible to get recognition forms from each member of the class. The nomination forms (or lack of them) will help you to learn about what behaviors the people in your classroom respect as effective leadership.

Leadership Standing and Development

On the day following collection of the nominations, your instructor will have a brief discussion with you. First, he will report the number of nominations you received and will give you your nominations to read and to keep. Next, you and he will discuss the reports of your leadership in the classroom and also how closely your leadership fits the definition of classroom leadership. You'll have a chance to describe what you've done that constitutes leadership, whether or not others have recognized it. Finally, you will be able to set some goals with your instructor about things you can do in the coming weeks to improve and develop your leadership skills.

There will be no public posting of leadership standing. The purpose of the Leadership Recognition System is to recognize and develop the leadership of every student, not just the top performers. All discussions of leadership standing and development will be confidential between you and your instructor. He is there to serve as a coach, to help you develop your skills.

Recognition of leadership in LRS has no direct impact on course grades. Rather, recognition is given in addition to regular classroom performance information.

Why recognize leadership? It has been shown that a good way of developing and maintaining leadership is to be sure that each person knows when, where, and under what circumstances others say he is effective. The Leadership Recognition System seeks to provide you with such information. You can then be in a better position to plan your own development.

APPENDIX E

Materials for the Classroom Behavior Development System

Introduction

The Classroom Behavior Development System was designed in collaboration with technical training instructors and students to maximize the impact of training on the airman. Its goals are to facilitate learning and generate high morale by enhancing the quality of student-instructor interactions and by increasing student motivation. The basic tactic involved in this program is the use of several student-group and instructor discussion sessions which are conducted in an atmosphere of cooperation and support. The program outlined below details the various sessions and activities to be carried out. [illegible] read them carefully. Because it is a demonstration program not a[illegible] issues or problems you may encounter will have been anticipated, [illegible], your support and enthusiasm will be needed and greatly appreciated. Your appraisals and comments will be gathered at the end of the trial period and will be included in the final evaluation. Similarly, student reactions and performance will also be obtained to indicate the relative contribution of the program.

The Classroom Behavior Development System requires several class sessions in the first five weeks of the technical training school. Research has shown that the first experiences we have in a new setting are very important. Thus, it is crucial that these sessions be carried out as described and according to the schedule provided for maximum impact.

The program will be described in the following format: a) the time to hold each session; b) the general goal or major thrust of the session will be spelled out; c) the behaviors or techniques that you should use are presented. You should be thoroughly familiar with the activities of each session prior to conducting it. In some cases, "trying them out" beforehand will be useful, particularly if the techniques are not familiar to you. For other sessions merely reading over the instructions will be enough. Remember, your conduct should appear natural and not "forced." Your students should be comfortable and interested and if you are not in control of the situation, it is unlikely that this will be the case.

Session One

A. This will occur on the first day of classes immediately after the students arrive in their actual classrooms. Many instructors take a certain period of time upon first meeting their class to brief students on their philosophy, the course, classroom procedures, etc. The activities described below should be made a part of this orientation.

B. Goals for the session are to give the students an overview of Classroom Behavior Development System and to create a first impression of technical training as a cooperative, supportive learning environment where the instructor's mission is to facilitate and maximize the learning of important skills.

C. Several techniques or procedures are to be used during this session (which should last about an hour). They are listed in the preferred order or sequence that they should occur.

1. A series of statements should be made about the importance of the attitudes or the philosophy of Classroom Behavior Development System. That is, training is most effective and time spent most productive when cooperation exists among students and instructors. An atmosphere of trust, of a willingness to be open and frank with one another while working through the course content should be stressed. Relationships should be supportive of the students and tend to make people feel good and feel that they are important as human beings. Thus, mutual respect must be promoted. The instructor has the responsibility not only to convey this impression of the classroom "climate" to the new students but he must act in such a way as to bring it about and maintain it throughout the course of instruction. Sincerity is needed in this regard. The instructor must be convinced that all people have some value or worth that he can promote learning for all his students.

2. Overview of future Classroom Behavior Development System sessions. It is important to let students know what is going to happen in Classroom Behavior Development System. Toward this end a student manual has been prepared which outlines the goals of the program (stated above), the various sessions, and what is expected of them. At this time the instructor should go through the booklet with the students, briefly outlining its content. Students should be assigned to read it more thoroughly that night to become fully prepared for the program. General questions from the students should be sought and answered. However, a more detailed discussion should be held off until just prior to, or during, the appropriate session. The one exception to this will be the area of classroom leadership. In this case it should be clear what behavior is important and how it will be judged (this is covered in Session three).

3. One important factor which produces a healthy learning environment is for students to be aware of their status as unique individuals and that they may have varying attitudes and abilities. The instructor must recognize and let the students realize that there are great individual differences among people, especially with regard to life goals, values, and background. The point is not to stress differences per se, but to make clear to the student that not everyone will think like he does, nor react to social

or learning situations in a similar manner. Statements to this effect should be provided by the instructor.

To support the notion of different backgrounds, the instructor should get as much information on his new students as he can prior to this first meeting. At the very least the instructor should know the student's first name, home town, high school, number of brothers and sisters. Knowledge of the student's AFSC is also desirable. In a casual manner, the instructor should share some of this information about each student with the group. This procedure has the double impact of demonstrating individual differences and of indicating to the student that the instructor cares enough about him to treat him as an individual.

Preparation for this exercise: A. The instructor should review each new student's personnel folder before the first class meeting. He should note or record on the acquaintance register provided below some key personal information about each of his new students. The specific things to write down are indicated by the columns of the form. There is also a space provided for any additional noteworthy information about the student. B. The instructor should survey these forms just before the first class to identify similarities and differences among students.

Procedures for this exercise: Within the first session, the instructor will use the information on the acquaintance registers for his class. He should share with his class some of the facts that he has recorded in such a way that he conveys something about each student. In order to acknowledge some of the similarities and differences among his students, the instructor should note things they have in common or that are unique and ask for discussion about them.

Here are two examples of specific things the instructor might do:

a) From his record the instructor might note that two of his students are from the same state or even area. In an attempt to make his comment meaningful to the two students he might say to them and the class "I understand that Joe and Bill are from Southern California."

[the instructor should point Joe and Bill out]

"You should find Colorado weather a pleasant change"

[or, the instructor might have said something that he knows about Southern California that would have showed his interest].

b) The second way the instructor might share information is to compare occupational specialties of class members. To

Acquaintance Register

Use this form to gather key information about your students. If at all possible do this before the first class meeting. Once you've got the information, note the similarities and differences among your students.

Name	Hometown & School	Family	AFSC	Other

do this he might state the number of students in each of the specialties represented in the class. He could do this by writing them on the blackboard or by merely saying them aloud. In doing this he should indicate which students are in the same specialties.

Regardless of the specific content of this session the instructor should recognize each student and do it in such a way that is casual and not appear "forced."

Where the instructor generates interest or curiosity (in himself or in his students) he should encourage the continuation of the conversation for a reasonable period of time. This should be done especially where student comments or questions occur.

In the event the instructor does not have personal information about each of his students available before the first class meeting he will have to start the acquaintance process by getting the information from the students themselves. Using the categories on the register he would get the students to volunteer information about themselves in one or more of the areas. He would then proceed in the above instructions.

Remember your goal is to show your interest in the students and not to be overbearing or artificial.

4. This Classroom Behavior Development System technique to be used in the first session involves the instructor in telling the class something about himself. He should describe his background, his career plans, his skills, interests, etc. The instructor should recount his own experiences and difficulties (if any) as he went from basic to technical training. The difference between the two settings and the problems of adaptation that most students face should be expressed. The students should feel as a result of this discussion that the instructor knows about the pressures and difficulties they will be facing. Moreover, this knowledge should be paired with a willingness to help the student cope and adjust to the new situation. The competing expectations of school versus squadron, concern over learning, the new (for the students) freedom that the LCI system provides, and the pitfalls of being on your own should be covered. Remember, the student has just come from basic training where he was told when and how to do everything. Technical school requires a good deal of independent effort, self-control and motivation. The student has to adjust to the new "ground rules."

5. This session should end with reference to the next day's session. The instructor may then wish to shift to more technical or substantive issues and go on with his orientation to the class operation (e.g., equipment, breaks, etc.).

Session Two

A. This will occur on the second day of classes (Thursday), during the first hour and a half of the class meeting.

B. Goals of the session are to develop a psychological contract with the students. Both students and instructor should develop a clear idea what is expected of each other. A second goal is to get students to participate and to be open about their own concerns; a certain amount of trust must be developed.

C. Several techniques will be used for this session; these will require a good deal of sensitivity, openness and personal understanding.

1. In a group discussion format (with chairs pulled into a circle for ease of communication) the instructor shares his thoughts with the class. What does the instructor expect from his students--what behavior attitudes or performances? What can the instructor do to help the student meet these expectations? What information or actions can he produce for the students? The importance of his acting as a preliminary screening device for students prior to exams is an example of a "protective" role he can play. What kind of obstacles does the instructor know about that each student will face? How will squadron life relate to learning? How can the instructor help? Finally, the technical complexities of the course should be acknowledged. The instructor should think of the common problems students have with course material (e.g., basic mathematics) and come up with suggestions for the students which may help their progress.

Specific instructions and forms to use for this Student Perception exercise are provided separately.

2. The instructor must get his students to express their state of mind. This is likely to be difficult to accomplish. Remember, the students may have had no experience in speaking out or giving their opinion. Or perhaps, if, in the past one did give his point of view, he may have been laughed at, or worse, actually punished for honestly saying

what he thinks. But it is important for the instructor to know exactly the feelings and perceptions of his students if he is to help them, particularly if he is to clear up misconceptions, identifying students with little confidence or those who otherwise need special attention. Usually, this occurs in classes but it takes a long time, and by the time it comes, it may be too late since the process of dissatisfaction and poor morale has set too deeply.

Students should share their expectations, the goals they have for the course and for themselves in the long run. The instructor should encourage positive comments, specific realistic goals and attitudes which would be good for learning. Again, great differences across students will exist. The instructor at this point wants (a) the student to feel he can trust the class and the instructor, and (b) the student to think in positive terms, in terms which will help him progress. For more information, read through the Student Perception exercise.

3. Finally, students questions and reactions to the course material, instruments and procedures should be obtained. During this session the instructor wants to make the learning task quite clear for everyone. What seems like a simple question for one person may be crucial for course work improvement for others. Spend up to 20 minutes in a group discussion to be sure that all students know what classroom performance is expected of them.

Session Three

A. The nature of leadership in the classroom should be discussed thoroughly. First, the Student's Manual for the Leadership Recognition System (which the students will have read) should be reviewed. The definition of classroom leadership behavior should be raised, its importance to creating a healthy learning environment must be stressed, and the fact that it is an unlimited quantity that all people can manifest in some degree must be made clear. Questions should be answered to the best of the instructor's ability. Leadership nomination procedures should be covered so that the students are clear as to what they are to do in the next (fourth) session). Please read the Instructor's Manual for the Leadership Recognition System for more information about conducting this session. Finally, it is very important for students to think about leadership and set goals for themselves as to the nature and level of leadership behavior they will engage in.

Students should be encouraged to approach the instructor at any time to talk about any of the issues raised in the group discussions. This is particularly true with regard to learning problems or leadership behavior issues. The last part of session three calls for students to fill out the Leadership Planning form. It is shown on the next page. Instructions for using it are given on the following pages.

Purpose: The aim of this exercise in session three is to get students to think about their classroom leadership behavior and to commit themselves to the highest possible levels of effectiveness.

Preparation: You, the instructor, should be very familiar with the Leadership Recognition System and its goals. More specifically, those behaviors which could be used to characterize each of the dimensions of classroom leadership discussed in Leadership Recognition System should be clearly understood and recognized. Finally, you should go over the exercise yourself beforehand to have a good "feel" for what the students are to do.

The exercise: Each student will be given a Leadership Planning Form one of which is on the next page. Using this form as a work sheet as you talk to the entire class you will proceed through the steps outlined below. Be sure that all students are done with one stage before moving on to the next one. Answer questions as they are raised by your students to the best of your ability.

Step 1: At the appropriate time in session three you are to pass out the Leadership Planning Form. Explain to your students that it has been found that getting people to clearly state their intentions as to how they will behave in the future is important to actually getting that behavior performed. The behavior of concern in this class is leadership. Thus, the exercise is designed to get people to commit themselves to showing more leadership behavior than they have been doing in the past.

Step 2: The behaviors listed on the Leadership Recognition Form (which is in the Student Manual) should be copied by the students in the spaces (marked #2) on the planning form. The student can abbreviate these behavior descriptions if he wishes. However, all must be listed.

Step 3: Because some of the behaviors are more difficult than others to perform, the student is to indicate which ones he feels he has more difficulty or trouble with. He is to place a D (for difficult) in the space provided next to the 4 behaviors that are comparatively speaking, harder for him. Also, he should place an E (for easy) next to the 4 behaviors which are easier for him (again relatively speaking) to perform. Note: the leader behaviors may seem to all be easy or all difficult to the student. But he must still make a relative judgment in step 3. Also, you might mark the D and E code on a blackboard.

Step 4: Here the student is to indicate the amount or the extent to which he does each of the behaviors listed. After looking at each one, he is to decide if he does that behavior a lot (every day); occasionally (once a week) or rarely (once every two weeks) and place an L, O or R respectively, whichever is appropriate. This should be done for all the behaviors listed. Also, list the L, O, R code on a blackboard.

Step 5: The student next looks at each of the behaviors and decides how important, in his opinion, each one is to producing a good learning situation in technical training. If a behavior is very important he should place a VI in the space provided. If it is only of some importance, SI should be used and if it is not felt to be important at all he should place the letters NI where appropriate. All behaviors should be judged.

When the student has completed Step 5 he has summarized his actions and feelings with respect to specific leadership behaviors in the classroom. He has systematically thought about leadership and has described his own situation. Now it is time to use this information in a way that will promote more leadership behavior by each student.

Step 6: At this point the instructor should ask each student to think about the leader behaviors which he has indicated as providing some difficulty to perform. He should choose one of these which he does not perform regularly and which he feels is of some importance to classroom effectiveness: Once he has done this he should write this behavior category down in the place provided next to "Key Behavior" on the form. Moreover, he should think what he can do to increase the likelihood that he will exhibit more of this behavior.

Step 7: With the previous step completed, the student should write down what actions he will take in the next two weeks. This should take the form of a statement starting with "I will attempt to ...." Furthermore, the student should write out an example of the action (or actions) he will try out. This should be as specific as possible. For example: "Since Joe and I have not been able to get along I will improve this situation by showing him in our next discussion that I still respect his viewpoint."

Step 8: The last thing each student is to do is to indicate which person (or persons) he will be relating to in trying to be a more effective leader. This could include you, the instructor. To do this he should place their initials in the spot provided on the form.

For the most part, each student will have filled out his Leadership Planning Form privately. He should keep it to remind himself of what he said he could do and show it to others only if he wants to. This means that you should not insist on seeing the form. However, should he want to share it with you (e.g., during the private feedback session for Leadership Recognition System) you should be prepared to discuss it with him. All of the preceding should be stated to the class when they finish filling out the form. Actually, if the student does wish to share his plans with you it would provide an excellent basis for getting to understand that student's point of view and for counseling that student to be even more effective. But remember, although you might want to see the form, it must be offered by the student himself.

LEADERSHIP PLANNING FORM

(1) Your Name ____________________

Date ____________________

	(2) Behavior	(3) Difficulty	(4) Amount	(5) Importance
a				
b				
c				
d				
e				
f				
g				
h				

(6) Key Behavior: ____

____

(7) Actions to be taken in next two weeks: ____

____

____

____

____

____

(8) Person or persons involved: ____

Session Four

A. This will occur on the ninth class day and will also be in a group format.

B. The goals for the session are to use the Classroom Leadership Recognition Form and to update what has been happening in the classroom. This session should provide an opportunity to raise old issues of concern and to deal with new ones in a planned manner.

C. The activities for the session are as follows (again, arrange the group in a circle).

1. First students should be instructed to fill out the Classroom Leadership Recognition Form. They should be reminded that they must nominate three persons but that they may nominate more if people have behaved in ways defined as leadership. They should be careful to write down the incident(s) on which they are making their judgments. This will be very important to the person receiving the forms. When this is done all forms passed out must be collected before discussion continues. For more detail, see the Instructor's Manual for the Leadership Recognition System.

2. The group should focus on what has happened to the "agreements" or "psychological contract" over the past days. Have expectations been met, have they been violated, have they changed? Students should be encouraged to express what they feel about the class operations, its atmosphere, the work load and the attitudes and behavior of others. The instructor must encourage honesty, yet he cannot let the discussion break down into personal animosity. General concerns should be raised; specific problems or conflicts should be dealt with privately. The students should feel that there is again a clear understanding among all members.

3. The last part of this discussion will deal with observed differences (if any) in class learning. The instructor should synthesize the problems he sees as common to at least some of the class. Again, if mathematics is a problem it should be brought up. Students may also raise issues missed by the Training Instructor. The class and instructor should discuss and come up with strategies or ways of dealing with these problems. Air Force ATC regulations should be observed, but student ideas should be adopted wherever possible. Some material or certain concepts could be reviewed at this time. However, future periods should be scheduled as needed to cover the material in question.

Session Five

A. This session will be an interview held privately with each student on the day after Classroom Leadership Recognition Forms are completed, i.e., the tenth class day.

B. The goal will be to feed back the results of the recognition forms to the student in such a way as to recognize and maintain present leadership behavior and generate motivation and interest in effective leadership among all students.

C. The activity of this Classroom Behavior Development System session will be quite similar to that which is involved in an appraisal interview. According to the instructions in the Leadership Recognition System booklet, the instructor should review and tally the CLRF's for each student. The incidents recorded should be evaluated, the student involved should be considered before having a private, counseling-like session with the student. These discussions should be carried out for all students during a given day. The discussion should focus on the student's judgments and should be designed to enhance the student's motivation to behave as a leader. For those students receiving few or no nominations, special care must be provided to eliminate the possibility that the student would become hostile, resigned or otherwise disruptive. Here the instructor should focus on ways of behaving that would be recognized as leadership. Thus, the Training Instructor becomes a helper or counselor rather than a judge. The instructor should keep his opinions to a minimum and instead rely on the examples generated by the class to guide the infrequently nominated student. Personal growth and a positive attitude should be stressed. See the Leadership Recognition System Instructor's Manual for further information.

Session Six

A. This should occur two days after the private feedback meetings have been held (about the 12th class day).

B. Goals for this session are to review what students felt were examples of good leadership, to generate other incidents which could be used and to set goals for even better performance for the class as a group.

C. The activities of this session will be done in a group with two or three student volunteers to help cut the illustrations of leadership.

1. First, students should be asked to give examples of what they consider to be effective classroom leadership. As much information leading up to the example behavior should be given and what specifically impressed the student should be determined.

2. The instructor should select (beforehand if possible) two or three leadership incidents and should have the students re-enact them. The instructor should point out the importance of a person's perceptions and how a given behavior can be interpreted in a different way. The instructor should demonstrate the different reactions that could be expected if only small aspects of the situation were changed--students could see a good incident become perceived as a poor one. The Training Instructor should offer his general comments and observations on leadership behaviors in the class; he should offer support for them as well.

3. Following the demonstration and re-enactment of leadership incidents that have taken place in the classroom, the instructor should select three students to participate in an Action Learning case. The case illustrates some of the difficulties in developing and maintaining effective leadership in the classroom. Instructions for the participants and observers are available separately.

4. The class and the instructor should set goals for the group with regard to leadership. Certain classes of behavior should be encouraged; agreement on and commitment to acting in an effective manner should be gotten from all students. A group perspective should be maintained.

5. Last, classroom performance (progress) should be reviewed. The instructor can spend the amount of time necessary to review how well learning has taken place for the group as a whole. High performing students may be singled out for special recognition at this time. If common problems in a technical area persist, a strategy could be developed to deal with it.

Session Seven

A. This session takes place on the 19th class day, and is identical with session four. The session comprises readministration of the Classroom Leadership Recognition Forms, and offers the students a chance to recognize changes in the classroom leadership effectiveness of their peers. Please turn to the Instructor's Manual for the Leadership Recognition System for further information about collecting the nominations.

Also, turn back to session four in this manual, page 10, to review other procedures for this session. Session seven should contain all the same activities as session four.

Session Eight

A. On the 20th day of class, you should hold private interviews with each of your students to give them their recognition nominations and to discuss changes in the effectiveness of their classroom leadership during the previous two weeks. Suggestions for conducting these discussions are found in the Instructor's Manual for the Leadership Recognition System.

Session Nine

A. This session is a group discussion which should be held on the 25th day of class.

B. Its purpose is to summarize the experiences of the class members as they've worked through the exercises in the Classroom Behavior Development System. Since the system has been intended and designed to have its major impact during the initial weeks of technical training and to develop the attitudes and motivations of trainees as they leave basic training and enter career fields, this session should serve to bring together the student's experiences in the classroom and summarize the impact of the system. This session marks the formal end of exercises comprising the system, but you are free to continue any aspects of the system that you and your students find valuable.

C. You should first announce that this is the final session scheduled under the Classroom Behavior Development System. Next, announce the purpose of this session, as outlined above.

Appoint someone to make some notes on the discussion. The notes should be collected, and will be used in evaluating the system.

The first part of the discussion should be directed toward the learning climate in the classroom. Discuss the activities and events that helped learning, and also the barriers and forces that hindered it.

The other part of the discussion should focus on the elements of the system. Specifically, you should seek student's opinions on which exercises were the most helpful and the least helpful. Also, seek suggestions for changes that could be made.

Finally, discuss the behavior development activities that students would like to undertake during the remaining weeks of the course.

CLASSROOM BEHAVIOR DEVELOPMENT SYSTEM

STUDENT'S MANUAL

Prepared for use in
Electronics Fundamentals
Lowry Technical Training Center

under the auspices of
Classroom Leadership Project
Human Resources Laboratory

Introduction

During the next five weeks, you will be participating in the Classroom Behavior Development System. This manual presents the purposes of the system and outlines the activities that you and your classmates will undertake. Because the U. S. Air Force is concerned with developing your skills and personal effectiveness, various approaches to the learning process are being evaluated. The Classroom Behavior Development System is one of these systems.

In collaboration with technical training instructors and students, the Classroom Behavior Development System has been designed to facilitate learning and to generate high morale by increasing the amount and quality of student and instructor contact. Increased student motivation is also desired. Discussions between you and your instructor are the basic tactic used in this system. The discussion sessions are to be carried out in an atmosphere of mutual cooperation and support. Classroom Behavior Development System stresses the importance of leadership in the classroom, leadership which brings about a healthy learning situation. As a student, you are expected to use your time in a productive way. You should acquire new skills and develop into a responsible and effective member of a team. The discussion sessions, the behavior expected of you, and the class exercises are all designed to provide you with the skills needed to be an effective airman.

The Program

Below is an outline of the various sessions in the Classroom Behavior Development System as they will occur during the first five weeks of technical training. A brief description of each session is given to you with instructions as to what you will be expected to do and what you should learn as a result. More information will be provided at the time of the actual sessions. If you have questions your instructor can always help you. Your classmates may also have information you need.

Session One.

This occurs on the first day of class. This is where you are introduced to the system. The instructor will tell you about the Classroom Behavior Development System and how it works. He will stress the importance of being cooperative with one another and of honesty and trustworthiness in your dealings with people you encounter in technical training. He will make it clear that mutual respect will be the key to positive attitudes and student learning. You should think about these points and ask yourself what they mean to you and what you can do to help develop a good learning situation.

The instructor will go over this booklet with you and spend time on several of its sections. You should realize that this overview is only an introduction. You will always have a copy of this manual to remind you of the various parts of the program and to learn about it more completely.

Your instructor will point out the fact that you are all somewhat different in what you believe and what you want from life. This means that you should not be surprised if a classmate does not agree with you or see things as you do. You both have a right to hold your beliefs but you need to realize that a smooth working relationship should still be possible in order to produce a good learning situation: Mutual respect and acceptance should be developed as you help one another work through technical training. The instructor will introduce you to your classmates and give some background information to the class on each student. He has taken the time to do this because he believes that you are all individuals and should be treated that way. This may also show that while you all may have come from various places, you do have many things in common.

After the general introduction, the instructor will tell you something about himself. He will probably describe his background, career plans and interests. He'll also share some of the problems he has faced or knows you will face in technical training. As you listen to him you should realize that he has a good deal of information to help you learn: it should also be clear that the instructor was being open and trusting toward you and that you should behave in a similar way. As he talks, consider that you may be following a career path similar to his.

Finally, your instructor will turn to some of the important facts about the classroom and the actual operation of the course. Be sure to ask him questions as they occur to you. Remember, his job is to help you learn.

Session Two.

The second session will occur on the second day of classes. There will be three parts to this period which will involve the following:

A. The instructor will gather the class for a group discussion session. During this discussion he will tell you how he can help you in your learning. He will try to be specific about his skills and the information he has. He'll also tell you about problems some students have in adjusting to technical training. During this time you should ask yourself what specific information might be helpful to you. Perhaps something is bothering you already. He would like to know this. As he does this he will try to make clear to you what he expects of you: your behavior, your effort and your level of performance. Teachers always want their students to do well; he wants to make sure that you know what he means.

B. You and your classmates will privately talk among yourselves to decide what you want from your instructor. This will take place in an exercise called the Student Perception exercise developed for this purpose. The exercise is in the back of this booklet so be sure that you read it over before the second session. This exercise is designed to get you to consider how you feel about technical training, about yourself, and about the instructor. You may be surprised to find that other students have similar concerns or problems. As you go through the exercise, you and your classmates will have to spell out your thinking and make it clear to the instructor what you expect from him and how he can help all of you get this. It is possible you will consider what you want to get out of training, out of the Air Force, or out of life in general. You may wish to see how the instructor reacts to your thinking. The more information you give into the group discussion, the more accurately the instructor will understand how you feel and how you think. Only then can he best help you.

C. After the Student Perception exercise has been completed, you should be sure to ask any questions dealing with technical materials, equipment, etc. that have been on your mind. Now is the time to raise any issues that you need to know about to do the projects ahead of you.

Session Three.

This session will occur on the third day of class. The main focus of this group discussion will be on leadership in the classroom. Time will be devoted to defining what behaviors can be considered as effective classroom leadership and how those behaviors are important to learning. A system of Leadership Recognition will be introduced. The Leadership Recognition System is outlined for you at the end of this booklet. Please be sure that you read it before the third session.

To maximize positive classroom leadership behavior, each of you will be asked to plan what you will do to strengthen your leadership skills. Specifically you should decide which leadership behaviors you will perform during the school day. Also, you should set goals for yourself about learning and leading. To help you do this, your instructor will give you a leadership behavior exercise.

Session Four.

This will take place on the ninth day of class. Two primary activities will occur at this time. First, you will be asked to fill out a Classroom Leadership Recognition Form for those classmates whom you feel showed effective classroom leadership during training. You must recognize at least three people who acted as leaders, but you can fill out a form on as many others as you think deserve it (not counting yourself). Please be thoughtful about this. Ask yourself who showed effective leadership behaviors? You will be asked to write down the example(s) or incident(s) that made you nominate a person. The procedures for recognizing effective leadership are covered in the back part of this manual.

The second part of the fourth session will look at what has happened to the "agreements" or the "learning contract" developed in the Student Perception exercise. Have you been doing what was expected of you? Has the class? What about the instructor? Has he let you down? How do you feel your learning has been going? These and other questions will be raised. When the group is done, any problems or issues that have been bothering you should have been "put on the table" and cleared up. You have to help make this discussion worthwhile by your participation, honesty, and helpfulness.

Finally, the discussion will turn to any technical material or problems that are affecting more than one student. If there are none, fine. If you and others are having trouble with the same part of the course material, you and your instructor should come up with a way to deal with it. What can the instructor do to help all of you? Perhaps some special instruction would help. What can you do to help yourself? Maybe just watching a demonstration would be useful. In any event, you and your instructor should discuss these learning problems and come up with solutions that you all can work on.

Session Five.

This will occur on the tenth day of class. The instructor will meet with you privately. He will show you the results of the class judgments of leadership. During this period he will give you all the Classroom Leadership Recognition Forms that you received from the class. The instructor will help interpret these forms and discuss with you your reactions to them.

It will be important to look at the examples of leadership behavior that other students have written about you. This will show what you did that was viewed as effective leadership.

Some of you will receive many recognition forms. Congratulations! Perhaps you may try out new leadership behaviors. Some of you may receive few or even no recognition forms. Your job will be to work with your instructor to find out what you should be doing to be considered as an effective classroom leader. Don't be discouraged. If you have spent some effort, what is it that you are doing that prevents it from being recognized? Your instructor can help you here. He will serve as a counselor if you want, and will help you to increase the chance that you will receive recognition in the future. In the Leadership Recognition System it is possible for all people to be effective leaders.

Session Six.

This will occur about the 12th day of class. In a group discussion you and your classmates should review the behaviors that were frequently recognized as effective leadership in your class. More specifically, you all should try to describe and discuss the examples and incidents you received on the Classroom Leadership Recognition form.

Your instructor will then coordinate an exercise designed to illustrate some leadership incidents. He will give you more information about this during the session. The goals of the exercise are to show you how easy it is for a given leadership behavior to be misunderstood and not recognized. We all have the problem of accurately knowing "what someone is up to." Acting as a leader is not easy; it is not a one way street. The person you are trying to help must accept your help. Otherwise he may not like it or recognize it as leadership. This exercise will show the importance of what we think and how we see the situation. When the exercise is completed, you will have a still better idea of how to be an effective leader. Also, since this exercise uses some students to act out incidents, you may be asked to help out the instructor in this way. Give him all your support.

At the end of the exercise, you and your fellow students should discuss how you can increase the effectiveness of each's leadership. You should specify where and what kind of behaviors you will perform in the coming days. The instructor will help you to do this because his goal is to get all of you to be recognized as effective classroom leaders. He will have specific suggestions on how to do this.

Session Seven.

This will occur on the 19th class day. It involves another administration of the Classroom Leadership Recognition Forms. Since you will have gone through this before, you will be very familiar with what to do.

Session Eight.

This will occur on the 20th class day. You and your classmates will privately get back the results of the class judgments on leadership. As before the instructor will help you interpret the forms that you receive. You can also contrast the judgments that you received with what you expected to get and plan for classroom behavior in the future. As always, your instructor is there to help you.

Session Nine.

This will occur on the 25th day of classes. The purpose for this group discussion will be to summarize your reactions to the Classroom Behavior Development System. Your opinions, attitudes and suggestions will be gathered and combined with those of your classmates and instructors. This period then serves as a summary point as to how the system has worked. This discussion is the chance to see how well the objectives have been met.

LEADERSHIP RECOGNITION SYSTEM

TRAINEE'S MANUAL

Prepared for use in
Electronics Fundamentals
Lowry Technical Training Center

under the auspices of
Classroom Leadership Project
Human Resources Laboratory

Purposes of the Leadership Recognition System

The Leadership Recognition System has been devised to:

- o Recognize effective leadership in the technical training classroom.
- o Aid the development of your leadership skills.
- o Contribute to the growth of the whole man--to your growth as an effective airman.

This manual is provided to explain to you the goals and operations of the Leadership Recognition System (LRS). Please read it carefully, direct any questions you may have to your technical instructor. Keep this manual and refer to it whenever you wish to review the operation of the LRS.

Introduction

Leadership in the classroom involves key behaviors which contribute to maximum learning, which develop positive attitudes and morale, and which support student effort and motivation. Extensive research has identified and defined important classroom leadership behaviors. The Leadership Recognition System provides you with a clear understanding of classroom leadership and offers a system of gathering information that will let you know about your leadership behaviors in the classroom. It will help you develop your leadership skills.

Study the definition and examples of effective classroom leadership shown in this manual. Then, later in this course, you will be asked to nominate your classmates to recognize their effective leadership. Nominations will be made on the Classroom Leadership Recognition Form, and properly completed sample copies of it are shown in this manual.

Be sure to study the definition of leadership very carefully, because effective classroom leadership may be different from effective leadership in other settings.

What is Effective Leadership in the Classroom?

The good classroom leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

To make this more specific, several examples are shown next. Your goal is to watch for instances of leadership like these.

Example 1.

Airman X realized that some of the students could not keep up with the instructor - so he asked the instructor to go over the beginning of the block instead of going on to new material.

Example 2.

A group went down to the orderly room to give blood. One guy took charge and made a head count and controlled some guys from screwing around by telling them that the sooner we got finished, the more free time we would have left.

Example 3.

Airman X had to work very hard to finish his projects before the end of the time scheduled for the block. Airman Y asked if he could help explain anything.

Example 4.

After trying for a long time to uncross some of his wires, Airman X finally got his circuit to work. Airman Y told him that he was an O.K. dude for not quitting and for keeping his cool.

Example 5.

Airman X saw that Airman Y was having problems with the oscilloscope. Airman X showed him how to work it instead of criticizing him for what he did wrong. Airman X told him that he didn't mind helping because it takes time to get it together in electronics.

Example 6.

Airman X helped to increase the feeling of togetherness of the class by getting to know each and every member.

These examples illustrate some aspects of leadership in the classroom. Watch for these and more. You will be using the Classroom Leadership Recognition Form to nominate and recognize fellow classmates, and you will need to report specific examples of their leadership behavior.

The next page shows a sample of the Classroom Leadership Recognition Form. Read it carefully.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

____

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

____

____

____

____

____

____

____

____

____

____

SAMPLE

The next six pages show samples of good classroom leadership in a technical training course. Try to think of other examples of effective leadership as you read these samples.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

George Washington

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

I was having trouble keeping up with the material so George asked the instructor to go over the beginning of the block instead of going on to new material. Also, he helped me feel pride in what I am learning.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

John Adams

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

We went down to the orderly room to give blood, and John made a head count and controlled some guys from screwing around by telling us that the sooner we got finished, the more free time we would have.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

Tom Jefferson

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

A guy was way behind in trying to finish
up a block on time and Tom asked if he
could help out and explain anything.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

Jim Madison

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

I worked on a circuit for a long time,
getting some wires straight, and got it
to work. Jim told me I was an O.K. dude
for not quitting and keeping my cool.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

John Monroe

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

A guy was having a problem with the oscilloscope and John showed him how to work it and didn't criticize him for what he did wrong. He said he didn't mind helping because it takes time to get it together in electronics.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your fundamentals electronics class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

Andy Jackson

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

Andy helped to increase the feeling of togetherness in our class by getting to know each and every one of us personally.

Using the Classroom Leadership Recognition Forms

At least twice during this course, your instructor will give you copies of the Classroom Leadership Recognition Form to fill out. You will be given enough copies of it so that, if everyone of your classmates demonstrated effective classroom leadership, you could recognize each one.

You will be asked to nominate at least 3 of your classmates, so be alert for instances of good leadership. It would be a good idea to jot down a note right away to serve as a reminder when you're asked to make nominations.

Try to be specific and complete in describing the things that the person did that made you recognize him as a leader. To report simply, "He was friendly" is not specific nor complete. Describe what actually happened that led you to say he was friendly and to nominate him.

When the nominations have been made, your instructor will collect them, sort them out and read them, and the next day will give them to the people who are recognized. Some students will receive many recognition forms, while others may receive only 1 or 2 (or none). You may get none; that is, no one felt you behaved as a leader (regardless of how effective you feel you are). Or it's possible to get recognition forms from each member of the class. The nomination forms (or lack of them) will help you to learn about what behaviors the people in your classroom respect as effective leadership.

Leadership Standing and Development

On the day following collection of the nominations, your instructor will have a brief discussion with you. First, he will report the number of nominations you received and will give you your nominations to read and to keep. Next, you and he will discuss the reports of your leadership in the classroom and also how closely your leadership fits the definition of classroom leadership. You'll have a chance to describe what you've done that constitutes leadership, whether or not others have recognized it. Finally, you will be able to set some goals with your instructor about things you can do in the coming weeks to improve and develop your leadership skills.

There will be no public posting of leadership standing. The purpose of the Leadership Recognition System is to recognize and develop the leadership of every student, not just the top performers. All discussions of leadership standing and development will be confidential between you and your instructor. He is there to serve as a coach, to help you develop your skills.

Recognition of leadership in LRS has no direct impact on course grades. Rather, recognition is given in addition to regular classroom performance information.

Why recognize leadership? It has been shown that a good way of developing and maintaining leadership is to be sure that each person knows when, where, and under what circumstances others say he is effective. The Leadership Recognition System seeks to provide you with such information. You can then be in a better position to plan your own development.

LEADERSHIP RECOGNITION SYSTEM

INSTRUCTOR'S MANUAL

Prepared for use in
Electronics Fundamentals
Lowry Technical Training Center

under the auspices of
Classroom Leadership Project
Human Resources Laboratory

Contents

Purposes of the Leadership Recognition System. 1

Sequence of activities. 2

Guide for Briefing Trainees about LRS. 4

Using the Classroom Leadership Recognition Form. 8

Classroom Leadership Recognition Form. 9

Recognition Summary Record. 10

Guide for Coaching Trainees on Leadership Standing
and Development. 11

Appendix: Trainee's Manual

Classroom Behavior Development System

Field tryout: The Classroom Behavior Development System is being evaluated for potential adoption in all appropriate technical training courses. The Classroom Behavior Development System has been devised to facilitate the development of leadership skills in the classroom. Its effects on leadership behaviors in the classroom, attitudes toward training, block exam performance, and self-paced speed are being evaluated. The field tryout consists of implementing Classroom Behavior Developing System as detailed in the Instructor's Manuals, and monitoring attitudes and performance on a weekly basis.

Questions on the operation of Classroom Behavior Development System or the conduct of the field tryout should be addressed to 2Lt. D. Shipman or 2Lt. R. Noblitt at, phone 4385, the Human Resources Laboratory, LAFB. Your opinions on the strengths and weaknesses of Classroom Behavior Development System will be sought at the conclusion of the field tryout.

Purposes of the Leadership Recognition System

The Leadership Recognition System has been devised to:

- Recognize effective leadership in the technical training classroom.
- Aid the development of trainee's leadership skills.
- Contribute to the growth of the whole man, the effective airman.

Sequence of Activities

1. Briefing of instructors and other course personnel.
2. First day of class: Briefing of trainees--distributing Trainee's LRS Manual, defining classroom leadership, discussing the purposes of LRS, reviewing the Classroom Leadership Recognition Form, and reporting leadership standing, describing observed behaviors, and planning leadership development.
3. Ninth day of class: Distribute copies of the Classroom Leadership Recognition Form. Each trainee must complete at least 3 nominations as he wishes (except he may not nominate himself). The completed nomination forms are collected and reviewed by the instructor. The number of nominations each trainee receives is reported on the Recognition Summary Record.
4. Tenth day of class: Leadership Standing and Development discussions are held individually with each trainee. The Classroom Leadership Recognition Forms are distributed to trainees receiving nominations, and individual coaching sessions are held.
5. Nineteenth day of class (same as ninth day): Distribute copies of the Classroom Leadership Recognition Form. Each trainee must complete at least 3 nominations, and may make as many nominations as he wishes (except he may not nominate himself). The completed nomination forms are collected and reviewed by the instructor. The number of nominations each trainee receives is reported on the Recognition Summary Record.

6. Twentieth day of class (same as tenth day): Leadership Standing and Development discussions are held individually with each trainee. The Classroom Leadership Recognition Forms are distributed to trainees receiving nominations, and individual coaching sessions are held.
7. Additional repetitions of the cycle of collecting nominations and holding coaching sessions can be done at the discretion of each instructor. LRS is intended to have a major impact early in the course, but may be extended if desired.

Guide for Briefing Trainees about LRS

This briefing should be held as soon as possible after the trainee enters his classroom for the first time. Ideally, all trainees in the same classroom will receive their orientation, receive this briefing, and begin their course assignments together as a group at the same time. Trainees entering the course at other times should be given individual briefings.

Introduce the Leadership Recognition System in the following way:

1. "In addition to the particular job skills you will learn during technical training, we will devote some time to leadership. Specifically, during the next several weeks we will participate in the Leadership Recognition System as a means of identifying effective leadership in this classroom. The purposes of the Leadership Recognition System are to:
    1. recognize effective leadershp in the technical training classroom,
    2. aid in the development of leadership skills, and
    3. contribute to the growth of the whole man--to your growth as an effective airman.
2. Make sure each student has read his copy of "Leadership Recognition System, Trainee's Manual." It was distributed as part of the manual for the CBDS.

3. After everyone has reviewed the manual:

   --discuss the definition and examples of effective classroom leadership;

   --review the Classroom Leadership Recognition Form, drawing especial attention to the need to report a specific incident to justify nominations and the other procedures related to making nominations;

   --announce that the first round of nominations will take place in about two weeks;

   --point out that each trainee must nominate at least three of his classmates, and that he may nominate other, additional effective leaders in his class;

   --suggest that each trainee be especially alert for instances of leadership, and that he jot down a note as a remainder for when the nominations are made;

   --outline the procedures for the Leadership Standing and Development discussions like this: "After the nominations have been made and collected, I'll sort them out and review each one. The next day I'll meet separately with each of you to let you know your leadership standing and to discuss your leadership in the classroom. The idea is to help you find out about your leadership skills and to develop them."

   --ask: "What questions do you have?"

4. Answer any questions that arise as well as you can.

   The following information may be helpful:

   o The Classroom Leadership Recognition Form is completed by trainees only; the instructor makes no nominations.

   o The instructor serves as a coach, helping trainees to develop their leadership skills, especially trainees who receive few (or no) nominations.

   o Recognition of leadership has no direct impact on course grades. Rather, recognition is given in addition to the regular classroom performance information.

- Nominations on the Classroom Leadership Recognition Form should cover leadership observed during the training day only. While leadership in the squadron is highly desirable, this system is intended to recognize leadership in the classroom.

- Nominations will be made on the 9th and 19th days of class. Recognition of leadership standing and leadership development discussions will be held on the 10th and 20th class days.

- No public posting of leadership recognition will be made. The emphasis here is on recognizing (and developing) the leadership of all trainees, not just the top performers.

- The instructor will keep a record of the nominations to assist in coaching trainees and to assist in evaluating the LRS.

- The Leadership Recognition System has been devised to achieve the purposes announced in the Trainee's Manual: Recognize effective classroom leadership; aid in developing leadership skills; and contribute to the growth of the whole man, the effective airman.

- The LRS is being implemented in this course and evaluated prior to adoption in all appropriate technical training courses.

- Trainees must nominate at least 3 classmates for recognition each time the Classroom Leadership Recognition Form is used. Enough copies of the form should be provided to each trainee so that he could nominate every member of his class (except himself).

- Self-nominations for leadership recognition are not permitted. Leadership is effective if others respond to it, and this system tries to reflect the responses of others.

5. When all questions have been discussed, conclude the briefing stating the hope that this system will lead to improved skills and more positive leadership in the classroom, and go on to the next activity.

Using the Classroom Leadership Recognition Form

The Classroom Leadership Recognition Forms should be distributed to trainees at some convenient time on the 9th and 19th days of training.

Each trainee should be given enough copies of the form so that he could nominate every other member of his class if each of them deserves recognition. Thus, if you have 8 trainees in your classroom, you should give each trainee 7 copies of the form.

Trainees must nominate at least 3 fellow trainees on the Classroom Leadership Recognition Form each time it is used. This requirement holds even if it is objected that only one person (or no one) was an effective leader, or it is difficult to think of what the person did. If a trainee still objects, point out that the purpose of LRS is to help him learn to identify leadership behavior, and ask him to keep trying.

A justification must be written for each nomination, even if it is brief.

Each trainee should use only one form per nomination, and should not be permitted to nominate any person twice or more on the same day.

A trainee may not nominate himself.

When collecting nominations, check to see that the trainee has nominated at least 3 different people and that he has not nominated himself. Record the number of nominations he makes on the Recognition Summary Record.

Classroom Leadership Recognition Form

On this page, you are to identify a member of your electronics fundamentals class whom you recognize as a good leader. This recognition should be based on what that person has done during the past two weeks during the training day (classroom, breaks). The first thing you should do is read the following list of behaviors that define good classroom leadership.

The good leader may:

- Show support of other people's behaviors.
- Show concern and respect for the needs and feelings of others.
- Treat people like individuals.
- Help others solve problems.
- Encourage others and praise their accomplishments.
- Initiate friendships with others.
- Increase the "togetherness" and pride of the class.
- Help others accomplish training goals of the class.

Now, do two things. First, write the name of the person whom you recognize as a leader in the space below.

A leader I recognize is:

____

Second, provide your justification for nominating this person. Write out what this person did that makes you recognize him as a leader.

This leader did the following (use only one page):

____

____

____

____

____

____

____

____

____

____

RECOGNITION SUMMARY RECORD

Leadership Recognition System
Electronics Fundamentals
Lowry Technical Training Center

Instructor________________________________ Shift__________

Date of trainee's briefing__________________

Date of 1st Round_________ Date of 2nd Round_________

Trainee	Number of Nominations Made[1]	Number of Nominations Received[2]	Discussion Held?[3]	Number of Nominations Made	Number of Nominations Received	Discussion Held?

[1] Each trainee must nominate at least 3 of his classmates, even if he feels that none are really effective leaders. In collecting the Classroom Leadership Recognition Forms, record the number of nominations each trainee makes.

[2] Record the number of nominations each trainee received.

[3] Discussions must be held with every student regardless of the number of nominations he receives.

Guide for Coaching Trainees on Leadership
Standing and Development

The most significant activity in the Leadership Recognition System is the discussion you will have with each trainee concerning his leadership standing and development of his leadership skill. This section presents suggestions for conducting the discussions.

What the trainee expects

Trainees expect to have a brief, confidential discussion with you on the day following collection of the Classroom Leadership Recognition Forms. They expect to find out how many nominations they have received. They've been told they can read and keep the nominations. Each trainee knows that the nomination forms (or lack of them) will help him to learn about what behaviors the people in his classroom respect as effective leadership. You will probably want to comment on any themes or consistencies that show up in the nominations, and also on how closely the reported behaviors fit the definition of classroom leadership (do the descriptions cover all aspects of the definition?). Give the trainee a chance to comment on the incidents reported on the nominations, or to describe what he has done that he thinks is leadership (even though others may not have recognized it). Finally, find out what the trainee would like to do about his leadership in the classroom, and get him to set clear, specific goals relating to ways he wants to improve his leadership performance.

The trainee's manual for LRS emphasizes self-development, not development imposed or coerced by the instructor. The trainee expects you to be a coach, to help him. Thus, you will have to refrain from telling him what to do, and instead, ask him what he wants to do and help him to discover how to do it.

Preparing for the discussion

After collecting and checking off the nominations that each trainee makes, you can start preparing for the next day's discussions. Record the number of nominations each trainee receives, and then read through the justifications for each nomination. For each trainee, jot down a few notes to guide your discussion with him. Note themes and consistencies that show up in the incidents, and check to see how many aspects of the definition of leadership are covered in the incidents.

Arrange for a place to hold the discussions. Since the trainee expects to discuss his skills with you confidentially, a private meeting place outside the classroom is needed. The best arrangement is for you and the trainee to be seated side by side at a table in a room where there will be no interruptions. Since these discussions will be quite brief (10 to 20 minutes), the space is not needed for too long a time.

Incidentally, your absence from the classroom during these discussions will be a nice test of the classroom leadership of your trainees.

Once you've gotten ready to talk with every trainee, decide on the order you will see them. Avoid talking with the top performers first or last. The same goes for the low performers. And make sure that you can talk to all your trainees during the same day--a delay or postponement can be very threatening.

Holding the discussion

Once the trainee and you have been seated, tell him how many nominations he has received. If you wish, you might also comment on his standing relative to other trainees (be consistent--either tell all trainees their relative standing, or none of them).

Next, give the trainee his nominations, and allow time for him to read through them. When he has finished reading, add any comments you have about consistencies or themes, and how well his behavior fits the definition of classroom leadership.

It is best to refrain from interjecting your own observations on the trainee's leadership, or your own philosophy of leadership. Under some circumstances, though, you may need to add your own commentary. The trouble is that "preaching" can get in the way of your role as a coach and helper. The focus should be on the trainee's actual behavior and the desired leadership behavior.

Next, give the trainee a chance to reflect on the nominations he has received. Praise his efforts when it is warranted. Inquire about what led up to the incidents reported on the recognition forms.

Take time to ask how well the nomination forms agree with his ideas about his own leadership behavior. This step is especially important for the trainee who receives one or no nominations, since it calls for him to report and reflect on his own view of his behavior. This then leads to an easy transition to discussing development of skills and specific improvement of goals.

Finally, ask the trainee what he would like to do about improving his classroom leadership skills ("There's always room for improvement"). Set some goals, specific ones, to be checked in the near future. Clear, specific goals lead to better performance than general exhortations to "do your best" and "try harder." It is important that the trainee select and specify the goals himself. He is likely to perform better if he feels that the goal is his own, not one that has been imposed on him. Your role is to help him make his goals clear and specific, and to make sure that there are some benchmarks for measuring attainment of the goals.

Special situations

The coaching on leadership standing and development can be the most valuable part of LRS. It will be the most challenging to you as a Technical Training Instructor. It can also present some interesting problem situations. Here are some tips on handling some special situations. You'll have to be creative and flexible in handling others that might come up.

- Some trainees may get no nominations. This means that their leadership behavior is not perceived by their peers as worthy of recognition. This fact will need to be faced. It is probably best to face it head on, fairly, without censure. "John, you got no nominations. Your classmates didn't report anything they considered important leadership behavior. How do you feel about that?" From this point, you can discuss the reasons behind his reaction ("You were surprised? Why is that?" or "It's about what you expected? Why is that?", etc.), you can discuss effective leadership behavior (Trainee: "Well, I really don't know what to do." Instructor: "What you can do is outlined in the definition of leadership..."), or follow whatever approach seems most promising. If the trainee comments that he has been trying to be a leader, ask him to describe what he has done. This should be sufficient to move the discussion to profitable lines.

- You might want to ask a trainee to make up examples of behaviors that are worthy of leadership recognition. Reviewing the leadership definition would be one approach. Reviewing the sample Classroom Leadership Recognition Forms in the Trainee's Manual would be another. Or it might be proper sometimes to ask him to recollect the incidents he reported in justifying his nominations of other trainees. The point is to make sure that the trainee understands what behaviors are viewed as effective leadership.

- Even a low ability trainee who is performing poorly on exams can exhibit leadership behaviors in the classroom and during breaks. Such instances will require your special attention.

- If both the trainee and you would see it as being useful, you might want to hold extra coaching sessions.

- The nominations might reflect popularity as much as they reflect leadership behavior. You will need to make sure that the focus is on leadership.

- If a trainee gives you the impression that he doesn't care about LRS or developing his leadership skills, you should discuss his views with him. Make sure he understands the purposes of LRS as stated in the Trainee's Manual, and emphasize the value to him of improving and using positive leadership skills, both in the Air Force and elsewhere.

- Be sure to give praise when it is deserved.

LEADERSHIP PLANNING FORM

(1) Your Name________________

Date ________________

	(2) Behavior	(3) Difficulty	(4) Amount	(5) Importance
a				
b				
c				
d				
e				
f				
g				
h				

(6) Key Behavior: ____

____

(7) Actions to be taken in next two weeks: ____

____

____

____

____

____

(8) Person or persons involved: ________________________________

Some Insights into Behavior Development: An Action Learning Case Study.

Purpose. The purpose of this exercise is to demonstrate leadership behaviors to the class in a way that allows them to see some of the problems in leading others. They should gain insights into leadership behaviors through their participation, observation, and discussion of the situation to be presented.

Preparation. Review the case materials provided in this exercise very closely. Reading the sets of information will help you anticipate behaviors that will occur and guide your planning for discussion of the case after its completion. This material consists of eight parts: specific procedures for you to follow (detailed below), a general information sheet, information sheets for each of the four students to be directly involved in the case, instructions for observers, and a set of guidelines to assist you in leading discussion of the case. Everyone in your class will be involved in the case, but you will have to select four people to perform as the four persons who will be given the parts to play. Try to select those who you think will give it a sincere effort.

Procedure. Here are the steps you should take to lead the Behavior Development Case Study.

1. At the beginning of the session, state the purpose of the case study to the class. (The general purpose is in their Student's Manual, but they have no more specific information). The purpose is stated on the first page of this exercise. You should also say that the case will allow all of us in the class to see how people react

in a hypothetical leadership situation. The students can compare what happens here with their own leadership behaviors.

2. Select the four people to be Sam Maier, Joe Porter, Bill Tiffin, and Pete Mayo. Inform the others that they will be observers and that their observations are an important part of the exercise.

3. Distribute the General Information sheet and read it aloud to everyone as they look it over. All people get this sheet.

4. Distribute the appropriate information sheet to Sam Maier and the observer sheets to each observer. Tell them to read their sheets over, while you talk to the other three people.

5. Have two chairs at the front of the room. Have Maier sit in one, with the other empty but facing him. While the others are reading, take Porter, Tiffin, and Mayo out of the room and give each his Information Sheet to read. Try to keep these three people somewhat separated so they don't talk to each other. Tell Porter you'll call him to the room in about 2 minutes; tell Tiffin you'll call him in about 10 minutes; and tell Mayo you'll call him in about 20 minutes.

6. Return to the room and allow a minute or two for Maier and Observers to finish reading. When Maier has finished tell him that "class is over" and Porter will be coming by soon. Then call Porter back into the room (the empty chair). Maier will then begin a discussion with him.

7. Let the discussion go for 5 minutes or until Maier and Porter have finished, whichever comes first. Have Porter return to his place in the class and call Tiffin into the room. He takes Porter's old place for discussion with Maier. Let this discussion proceed for 10 minutes if necessary. Then send Tiffin back to his spot and bring Mayo in for another 10 minute discussion with Maier. When this has ended, the action part of the case is over.

8. Return Maier and Mayo to regular chairs in the group and begin discussion of the case by turning to your Discussion Guidelines. Continue the discussion for the next 15-20 minutes to see what the men have learned from the experience.

9. Take a short break and go on to the next part of the sixth session.

Instructor's Discussion Guidelines

1. Have two or three observers report to the group on what they saw happening in the three scenes.

2. Have Maier, Porter, Tiffin, and Mayo read their information sheets to the class. Then ask for points about the participants' roles that the observers and Maier hadn't seen before.

3. Analyze what happened in the discussion process you just observed. Try to get the group to pay attention to issues like the following:

   a. How did Maier attempt to show leadership behaviors?

   b. Was Maier consistent in the way he approached the leadership problem with each of the three men when their discussion started?

   c. what were the outcomes of Maier's leadership attempts? What happened to each of the other three people? Was Maier "successful"?

   d. What were the effects on Maier? How did he handle each situation as it progressed and new information become available to him about the guy in the other chair? (Note: By this time, the discussion should have revealed the basic point that people differ widely and a leadership approach which is effective if you're dealing with a "Porter," might not be appropriate, or would require some change, for another kind of person)

   e. If Maier's behaviors were not successful, or backfired, try to determine why this was so.

   f. Discuss what a "Maier" might do when confronted with differences in opinion. Be careful here Try to get as many suggestions as you can; but don't force any premature conclusions. The goal here is to make people aware of potential problems, not to find a "right" solution.

   g. Close the discussion by asking everyone to try to relate what happened in this session to any problems he may have encountered so far in his own classroom behavior development. This should provide a transition point for moving to analysis of class progress in behavior development and what might be done in the days ahead.

Information for Observers

You are about to overhear discussions between Airman Maier and three other people in succession: Airman Porter, Airman Tiffin, and Sergeant Mayo. Watch what happens and form your own conclusions about it. Look for the following points:

a. What is Maier trying to do in each case?

b. Is whatever he is doing working out well?

c. What is Maier doing right? What is he doing wrong? What is his major objective? What types of leadership behaviors is he demonstrating?

d. What are the feelings and goals of Porter, Tiffin, and Mayo?

e. How does Mayo use his higher rank (or does he)?

Jot down notes as you listen. Do not enter into the discussion. You will be asked for your comments when the discussion has ended.

Information for Sam Maier

You are an airman basic enrolled in the fundamental electronics technical training course. You are about halfway through the course and have been performing very well on your projects and examinations. Unfortunately, not all of the other people in the class have been doing so well. You think this is unfortunate because of several reasons:

1. You have a sincere commitment to the Air Force and its goals of serving the country, so you want all of your fellow trainees to become electronics experts and succeed in training.
2. You have a genuine concern for the welfare of other people. You have been brought up to respect the feelings of others, and have always tried to "look out for the other guy."
3. You feel that helping and cooperating with the other men will improve attitudes and morale of the group, which will contribute to their effectiveness in training.

Three of the men in your group seem to be having particular difficulty in their work. Since you are on the LCI training system, you haven't had much time, or reason, to talk with any of these guys or get to know them. You don't even know what their problems are. They might or might not be trying hard; in fact, they might or might not be caring about their performance. But you have seen them moping and grumbling around the classroom after their last couple of block tests--so something must be wrong.

You have decided to see what you can do to help each of them. The three men, Airman Joe Porter, Airman Bill Tiffin, and Sergeant Pete Mayo are all here in class. When the instructor signals that class time is over, you are going to approach them to try to learn about their problems and give them help and support. You will spend a few minutes with Joe, then Bill, then Pete.

Information for Joe Porter

You are a basic airman in the fundamental electronics technical training course. You are about halfway through the course and have gotten there by the skin of your teeth. Things have really been going badly. You've had to repeat two block tests and barely passed the rest. You wish you were doing better, but just can't seem to catch on to the material. Since you are working on the LCI system, you haven't bothered to talk to any of your classmates about your problems---besides, it would probably be embarrassing. Though you've done well in school, you have suddenly found it hard to deal with mechanical things. The math comes pretty easy, but once you get to that work bench on your own you feel lost.

There's one guy in the class you would really like to talk to. Sam Maier seems like a nice, easy-going guy you would like to make friends with. He's also sharp in electronics and does his work quickly and easily. It would be nice if he offered to give you a hand. You feel sure he could teach you something and pick up your spirits. But you're not sure he would take time to help and you don't want to make a fool of yourself by making the first contact. So now you are plugging along as usual but waiting for Sam to say something to you. If he doesn't, you'll really have to give serious thought to whether you're going to be able to cut it in this specialty field.

Information for Pete Mayo

You are a sergeant in the electronics fundamentals technical training course and not at all happy about it. The course is about half over and you haven't been performing up to par. This is the first time you've had any trouble in your Air Force career, though, and you are confident that you can make it on your own if you apply yourself and try harder. You've probably just been away from a school classroom too long and are having a hard time getting into a new specialty. You originally thought it would be a good move to switch over to this field but have become disillusioned with the whole thing. But things should get better. You have enjoyed a successful career so far, by getting things done and gaining the respect of those you've dealt with. This is no time to cop out, especially since there are younger, greener kids in this class who might consider you an example.

Lately you've noticed that one guy in the class, Sam Maier, has been watching you pretty closely. You wonder what he's up to, especially since he caught you griping to yourself about that last exam you botched up. He seems like a nice guy and you suspect he'll probably try to talk to you to help you over the rough parts of the road. But this is the last thing you need! You have no particular grudge against Sam, but your performance is really none of his business. You've always been sort of independent and won't take charity from anybody, particularly a fresh recruit out of basic. If he's so good, he should get done with his work and get out faster, like you're supposed to do in LCI courses. You can take care of yourself.

Information for Bill Tiffin

You are a basic airman in the fundamental electronics technical training course. You are about halfway through the course and have not been doing too well on your projects and exams. This doesn't really bother you too much, so long as you get by. What does bother you is that nobody else really seems to care about you, or anyone else but themselves. What this program needs is some social life. If you could get together with a classmate you might be able to have a good time and find some interesting extracurricular things to do that would take some of the edge off a dull training day. After all, there are thousands of electronics specialists in the Air Force, but how many happy ones are there? And, as you see it, that's what life is all about --- enjoying yourself with other people. Rather than worrying about hitting 95 on a block test, you think you would be better off making some close friends.

The one guy you would really like to buddy-up with is Sam Maier, who is in your class and seems cool. It would be great to talk to him after class and see what you could get going between you. You might be able to organize a friendly game, or double date with a couple of nice blonds you know from the WAF squadron. You figure you'll let Sam make the first move though. If he opens the door to friendship, you'll certainly take advantage of the offer. A guy could go nuts if he's deprived of friendship for too long in the military.

APPENDIX F

Additional Analyses and Results

Table F-1

Airmen Attitudes Toward Training Items

1. Your Instructor in this course - Taking into account how effective a teacher he is and how he gets along with his students.

2. The System of Rewards associated with being an effective student in this training program - Taking into account what rewards are available and what one must do to get them.

3. Your Fellow Trainees in this training course - Taking into account how well other students make this class profitable for you, how well students get along with one another, and the general togetherness of your class as a group.

4. The Content of this course - Taking into account the interest, importance, and challenge of the material required of you in the course.

5. Your own Progress in the course - Taking into account how well you are doing in terms of performance and how quickly you are mastering the material.

6. Your Overall satisfaction with this course - Taking into account generally all factors which are responsible for how satisfied you are.

7. The United States Air Force - Thinking generally of the system as it is operating and affecting your life.

8. Your own Personal Development during the training you have had so far - Taking into account the confidence you have in your abilities to go out and perform effectively in your Air Force job.

9. How much effort are you putting into this training course; how hard have you honestly tried, regardless of how well you are doing grade-wise?

10. Finally, as of how you feel today, would you recommend to a new airman who was your friend that he get involved in this technical training program?

Instructor Assessment of Students' Effectiveness Items

1. Showing initiative in the class
2. Knowledge of substantive material taught in the course
3. Communication skills
4. Getting along with classmates
5. Overall performance in the course
6. Exerting effort and applying himself to the training task

Table F-2

Means from Airmen Attitudes Toward Training and Instructor's Assessment of Student's Effectiveness from Baseline Treatment (N = 86) Across Administrations

		ADM 1		ADM 2		ADM 3		ADM 4	
	Variables	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Attitudes	1	4.68	0.62	4.61	0.75	4.67	0.73	4.59	0.74
	2	3.44	1.01	3.47	1.05	3.28	0.95	3.14	1.07
	3	4.40	0.83	4.31	0.81	4.30	0.79	4.18	0.77
	4	4.26	0.99	4.31	0.85	4.10	0.98	3.87	1.02
	5	4.26	0.80	4.04	0.91	3.87	1.05	3.70	1.14
	6	4.06	0.85	4.04	0.95	3.86	1.00	3.74	1.00
	7	3.39	1.25	3.34	1.13	3.38	1.18	3.37	1.26
	8	4.09	0.91	4.06	0.86	3.99	0.83	4.04	0.82
	9	4.07	0.87	3.96	0.87	3.95	0.78	3.96	0.82
	10	3.82	0.99	3.58	1.04	3.51	1.05	3.42	1.08
Assessments	1	3.55	0.70	3.77	0.78	3.67	0.75	3.75	0.88
	2	3.52	0.78	3.54	0.89	3.49	0.99	3.55	0.95
	3	3.25	0.[illegible]8	3.47	0.73	3.43	0.84	3.41	0.81
	4	3.24	0.57	3.38	0.71	3.45	0.72	3.48	0.75
	5	3.51	0.67	3.77	0.88	3.65	0.95	3.55	1.06
	6	3.74	0.71	3.87	0.75	3.79	0.85	3.80	0.94

Table F-3

Means from Airmen Attitudes Toward Training and Instructor's Assessment of Student's Effectiveness from LATS Treatment (N = 56) Across Administrations

		ADM 1		ADM 2		ADM 3		ADM 4	
	Variables	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Attitudes	1	4.63	0.62	4.59	0.68	4.63	0.59	4.69	0.51
	2	3.52	1.13	3.23	1.24	3.06	1.11	2.94	1.24
	3	4.49	0.69	4.32	0.74	4.32	0.64	4.40	0.66
	4	4.13	1.09	4.13	1.10	3.99	0.92	3.83	0.94
	5	4.16	0.90	3.82	1.03	3.85	0.98	3.79	0.87
	6	4.04	0.88	3.95	1.07	4.00	0.80	3.67	0.96
	7	3.78	1.07	3.84	1.05	3.80	1.04	3.81	1.10
	8	4.24	0.88	4.13	0.81	3.98	0.77	4.06	0.80
	9	3.84	0.83	3.88	0.85	3.93	0.77	3.83	0.86
	10	4.07	1.00	3.77	1.01	3.69	1.04	3.69	1.04
Assessments	1	3.57	0.83	3.48	0.87	3.80	0.85	3.62	0.86
	2	3.52	0.91	3.36	0.82	3.42	0.83	3.42	0.77
	3	3.59	0.86	3.14	0.62	3.38	0.78	3.23	0.64
	4	3.63	0.88	3.23	0.50	3.44	0.74	3.40	0.63
	5	3.70	0.89	3.54	0.74	3.56	0.83	3.43	0.75
	6	3.76	0.79	3.66	0.72	3.87	0.70	3.68	0.80

Table F-4

Means from Airmen Attitudes Toward Training and Instructor's Assessment of Student's Effectiveness from LRS Treatment (N = 53) Across Administrations

		ADM 1		ADM 2		ADM 3		ADM 4	
	Variables	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Attitudes	1	4.62	0.66	4.60	0.60	4.65	0.60	4.78	0.48
	2	3.51	1.17	3.37	1.33	3.27	1.29	3.22	1.23
	3	4.31	0.90	4.39	0.66	4.45	0.74	4.43	0.80
	4	4.37	0.79	4.12	1.08	4.12	0.97	4.08	0.76
	5	3.81	1.21	3.44	1.21	3.67	0.97	3.54	1.02
	6	4.08	1.04	3.94	0.98	3.88	1.03	3.97	0.76
	7	3.87	0.99	3.83	1.00	3.78	1.03	4.03	0.80
	8	4.33	0.73	4.10	0.93	4.08	0.89	4.08	0.64
	9	4.00	0.82	4.06	0.78	3.94	0.66	4.00	0.75
	10	3.85	1.04	3.67	1.18	3.71	1.08	3.65	1.03
Assessments	1	3.28	0.57	3.53	0.70	3.64	0.72	3.58	0.85
	2	3.23	0.51	3.28	0.75	3.52	0.74	3.40	1.00
	3	3.04	0.52	3.35	0.63	3.22	0.58	3.44	0.85
	4	3.15	0.41	3.28	0.57	3.22	0.51	3.58	0.79
	5	3.30	0.58	3.39	0.85	3.56	0.84	3.46	0.85
	6	3.34	0.59	3.61	0.80	3.56	0.73	3.75	0.89

Table F-5

Means from Airmen Attitudes Toward Training and Instructor's Assessment of Student's Effectiveness from CBDS Treatment (N = 36) Across Administrations

		ADM 1		ADM 2		ADM 3		ADM 4	
	Variables	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Attitudes	1	4.72	0.70	4.76	0.66	4.74	0.62	4.60	0.70
	2	3.42	1.27	3.19	1.23	3.32	1.39	3.40	1.19
	3	4.64	0.64	4.61	0.61	4.68	0.64	4.54	0.70
	4	4.42	0.81	4.18	0.73	4.29	0.91	4.09	0.98
	5	4.03	1.11	3.85	1.20	3.85	1.11	3.97	0.79
	6	4.14	0.72	4.09	0.91	4.18	0.90	3.77	1.14
	7	3.67	1.10	3.73	1.13	3.79	1.15	3.83	1.04
	8	4.25	0.77	4.06	0.79	4.24	0.70	3.94	0.87
	9	4.22	0.72	4.12	0.74	4.27	0.71	4.23	0.81
	10	4.17	0.78	3.78	1.10	3.88	1.00	3.71	1.02
Assessments	1	3.36	0.54	3.39	0.57	3.52	0.71	3.46	0.82
	2	3.25	0.50	3.18	0.91	3.32	0.90	3.34	0.80
	3	3.19	0.53	3.11	0.57	3.32	0.63	3.23	0.65
	4	3.19	0.53	3.11	0.32	3.36	0.57	3.40	0.70
	5	3.19	0.40	3.21	0.88	3.36	0.91	3.37	0.91
	6	3.25	0.50	3.29	0.54	3.40	0.65	3.51	0.85

Table F-6

Means from Airmen Attitudes Toward Training from Control Group at Chanute Air Force Base (N = 69)

	ADM 1		ADM 2		ADM 3		ADM 4	
Variables	**Mean**	S.D.	**Mean**	S.D.	**Mean**	S.D.	**Mean**	S.D.
1	4.67	0.66	4.71	0.52	4.39	0.82	4.20	1.05
2	4.00	0.89	4.04	0.93	4.00	0.89	4.03	0.92
3	4.20	0.83	4.38	0.64	4.30	0.69	4.28	0.89
4	4.46	0.74	4.49	0.74	4.19	0.83	4.25	0.93
5	4.01	0.92	3.89	1.02	3.80	0.98	3.87	1.03
6	4.07	0.98	4.04	0.99	3.93	0.96	4.17	1.07
7	3.73	1.01	3.58	1.14	3.80	1.21	3.73	1.21
8	4.22	0.82	4.26	0.76	4.00	0.92	4.06	1.00
9	4.23	0.81	4.19	0.77	4.09	0.70	4.13	0.82
10	4.15	0.96	3.87	1.01	3.78	1.07	3.73	1.14

Table F-7

Item Means from Instructor's Assessment of Students' Effectiveness Questionnaire for the Entire Sample and Each Experimental Group

		Overall		Baseline N = 86		LATS N = 56		LRS N = 53		CBDS N = 36		
	Var.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	F Test
ASSESSMENTS	1	3.59	0.78	3.68	0.78	3.62	0.86	3.51	0.72	3.43	0.67	N.S.
	2	3.42	0.84	3.52	0.90	3.42	0.83	3.35	0.77	3.27	0.77	N.S.
	3	3.32	0.71	3.39	0.75	3.32	0.74	3.26	0.66	3.21	0.59	N.S.
	4	3.36	0.66	3.39	0.69	3.41	0.70	3.30	0.60	3.27	0.56	N.S.
	5	3.51	0.84	3.61	0.90	3.55	0.80	3.43	0.78	3.28	0.78	N.S.
	6	3.67	0.78	3.80	0.82	3.74	0.75	3.56	0.77	3.36	0.65	N.S.

Instructor Assessment of Students' Effectiveness Items

1. Showing initiative in the class
2. Knowledge of substantive material taught in the course
3. Communication skills
4. Getting along with classmates
5. Overall performance in the course
6. Exerting effort and applying himself to the training task

Table F-8

Intercorrelations Among Aptitudes From Airmen in all Treatments at Lowry Air Force Base*

	Gen.	Admin.	Mech.	Elec.	AFQT
General Apt.					
Admin. Apt.	.63 (181)				
Mech. Apt.	.65 (181)	.33 (181)			
Elec. Apt	.64 (181)	.45 (181)	.48 (181)		
AFQT	.32 (175)	.25 (175)	.37 (175)	.45 (175)	

*All p < .001

APPENDIX G

The Instructor Opinions About Training Questionnaire

Instructor Opinions About Training

Below are several statements relevant to an instructor's role in the technical training program. Indicate the extent to which you agree with each statement by checking one of the five spaces below each statement.

1. I feel free to teach my classes the way I want to teach them.

______	______	______	______	______
Strongly agree	Agree	Neutral; neither agree nor disagree	Disagree	Strongly Disagree

2. I am rewarded for a teaching job that I do well.

______	______	______	______	______
Strongly agree	Agree	Neutral; neither agree nor disagree	Disagree	Strongly Disagree

3. I get a good variety of activities in my instruction job.

______	______	______	______	______
Strongly agree	Agree	Neutral; neither agree nor disagree	Disagree	Strongly Disagree

4. The routine paperwork I have to do is excessive.

______	______	______	______	______
Strongly agree	Agree	Neutral; neither agree nor disagree	Disagree	Strongly Disagree

5. Offering incentives to trainees for doing well would be a good way to improve morale.

______	______	______	______	______
Strongly agree	Agree	Neutral; neither agree nor disagree	Disagree	Strongly Disagree

6. Offering incentives to trainees for doing well would be a good way to improve performance.

______	______	______	______	______
Strongly agree	Agree	Neutral, neither agree nor disagree	Disagree	Strongly Disagree

7. I do too much administrative work and not enough instruction.

______	______	______	______	______
Strongly agree	Agree	Neutral; neither agree nor disagree	Disagree	Strongly Disagree

8. I would like to spend extra time with slower students in remedial training.

______	______	______	______	______
Strongly agree	Agree	Neutral; neither agree nor disagree	Disagree	Strongly Disagree

9. It would be a good idea to have extra training time with the best students to give them extra advanced instruction they won't get in class.

______	______	______	______	______
Strongly agree	Agree	Neutral; neither agree nor disagree	Disagree	Strongly Disagree

10. I like to experiment with new approaches to instruction even though I may not be sure they will work out well.

______	______	______	______	______
Strongly agree	Agree	Neutral; neither agree nor disagree	Disagree	Strongly Disagree

11. Being a technical instructor is a difficult job.

______	______	______	______	______
Strongly agree	Agree	Neutral; neither agree nor disagree	Disagree	Strongly Disagree

12. Being a technical instructor is a satisfying job.

______	______	______	______	______
Strongly agree	Agree	Neutral; neither agree nor disagree	Disagree	Strongly Disagree

☆U.S. GOVERNMENT PRINTING OFFICE: 1975-671-602/8007